MUTOH

User's Guide

Spitfire 100 Extreme

COLOURGEN

For Maintenance Kits, Spares,
Service and Support
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TABLE OF CONTENTS

1 Regularisation and safety information 7
1.1 Regulations 8
1.2 MANAGING VOCs 9
1.3 HANDLING INKS + waste 9
1.4 Warnings, Cautions and Notes 10
1.5 SAFETY INSTRUCTIONS 10
1.6 Warning labels 12
2 Product Overview 17
2.1 Part names and functions 18
2.2 Installation requirements 24
3 Basics 27
3.1 Powering on 29
3.2 Powering OFF 30
3.3 Switch ON-OFF the winding system. 31
3.4 Media handling 32
3.5 Ink cassettes 41
3.6 Replacing the cutting blade 43
3.7 Replacing the waste bottle 44
3.8 Working with Mutoh's SmartChip management System 45
3.9 Switch between ink configurations. 49
3.10 Unattended printing or leave printer idle during night 50
3.11 LongStore 52
3.12 Transferring the printer 56
4 Periodical maintenance 59
4.1 Periodical Services done by end user 60
4.2 Cleaning 61
4.3 Cleaning the wipers 61
4.4 Flushing the caps 62
4.5 Cleaning the edges of the caps 64
4.6 Clean around bottom of the head 65
4.7 Replace the spitting box sponge 66
4.8 Replacing the wipers 67

4.9 Replacing the pump tubings ... 68
4.10 Replacing the absorbent behind the maintenance station. ... 69
4.11 Changing the absorbent under the waste bottle ... 70
4.12 Changing the absorbent in the manual cleaning station ... 71
4.13 Head cleaning ... 72
4.14 Service done by authorised Mutoh technician ... 74
5 Prepartions before printing ... 75
5.1 Using media ... 76
5.2 Testprinting ... 79
5.3 Set the correct distance adjust (step) ... 85
5.4 Printing flow ... 89
6 Printer menu ... 91
6.1 How to work in the menu ... 95
6.2 Operation panel IN standby mode ... 97
6.3 Operating panel during printing ... 102
6.4 Operations after printing ... 106
6.5 Menu overview (1/7 – 7/7) ... 108
7 Troubleshooting ... 165
7.1 Introduction ... 166
7.2 Failures and malfunctions of the printer ... 166
7.3 Error messages ... 171
7.4 When media jams occur ... 175
7.5 Emergency capping procedure ... 176

1 REGULARISATION AND SAFETY INFORMATION

1.1 Regulations 8
1.2 MANAGING VOCs 9
1.3 HANDLING INKS + waste 9
1.4 Warnings, Cautions and Notes 10
1.5 SAFETY INSTRUCTIONS 10
1.6 Warning labels 12
1.6.1 Handling the warning labels 12
1.6.2 Position of the warning labels 12
1.6.2.1 Front of the machine. 12
1.6.2.2 Rear of the machine. 13
1.6.2.3 Types of warning labels on the winding system 14
1.6.3 Labels in function of transportation 15
1.6.4 Ink related labels. 16

1.1 REGULATIONS

The CE marking is a mandatory European marking for certain product groups to indicate conformity with the essential health and safety requirements set out in European Directives.

By affixing the CE marking, the manufacturer, his authorized representative, or the person placing the product on the market or putting it into service ensures that the item meets all the essential requirements of all applicable EU directives and that the applicable conformity assessment procedures have been applied.

This product is tested and approved by the Canadian Standards Association (CSA), this to provide increased assurance of quality and safety.

The product is tested according to IEC60950.
This standard tries to cover all safety aspects.

- Mechanical, electrical
- Choice of components
- Choice of materials: flammability!
- Connectors, cables …
- Fire enclosure
- …

This means the product is safe for users, service personnel and production personnel.

CSA International certification is not a legal commitment but it assures the quality and safety of the machine.

Your product is designed and manufactured with high-quality materials and components, which can be recycled and reused.

When this crossed-out wheeled bin symbol is attached to a product, it means the product is covered by the European Directive 2002/96/EC – WEEE regulation.

Please inform yourself about the local separate collection system for electrical and electronic products.

Please act according to local rules and do not dispose of your old products with your normal household waste. The correct disposal of your old product will help prevent potential negative consequences for the environment and human health.

FCC

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

ICES

This Class A digital apparatus complies with Canadian ICES-003.

1.2 MANAGING VOCS

When Mutoh printers with (low)-Solvent inks are used, volatile organic compounds (VOCs) will be released.

In order to protect human health and the environment, VOCs must be managed. This means VOCs need to be controlled and compliance with all local, state and federal environmental, occupational health and safety regulations on VOCs in the atmosphere and in the workplace is needed.

The amount of released VOCs depends on multiple factors: room volume, unforced ventilation, print mode, number of printers in the room, heaters settings, kind of media, use of extra dryers, print production…

Because of differences in local regulations and working conditions, it is recommended to consult a local consultancy agency to determine the regulations involved. An acknowledged laboratory can determine the total amount of released VOCs in the atmosphere and in the workplace. Consequently they can determine if forced ventilation for occupational health and air pollution control devices are needed. An engineering firm could be consulted on the installation of the ventilation system where prints are produced, handled and stored.

1.3 HANDLING INKS + WASTE

Before handling inks / cleaning fluids and their waste, please read the Material Safety Data Sheets (MSDS) and the labels for important health, safety and environmental information carefully. All safety data sheets are periodically updated. These sheets and their translations can be found on www.mutoh.eu/Products/Downloads/extra/msds .

Only use original manufacturer's ink and appropriate cleaning liquid. Before installing an ink holder, shake it gently. Doing so will preserve print quality.

When ink is moved from a cold place to a warm place, keep the ink for three hours or more in the new printing environment before printing.

Do not disassemble ink holder. Otherwise, ink may get in your eyes or on your skin. A disassembled ink holder cannot be used either.

When refilling ink, use original manufacturer's ink. Our Mutoh printers are designed to use original ink. If you use ink which are not produced by the original manufacturer :

- printing might become blurred and the end of the ink in the holder might not be detected correctly
- Any problems caused by using an ink holder other than those recommended above will not be covered by the warranty, and repair expenses will be paid by the customer.

For handling waste : see section 13 on the MSDS-sheet

- Inks / Waste
  - General advice: wear safety glasses and gloves especially when handling the waste ink.
  - After spill: remove contaminated clothing.
  - After inhalation: if difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.
  - After skin contact: wash thoroughly with soap and water.
  - After eye contact: wash affected eyes for at least 15 minutes under running water while the eyelids are held open.
  - After swallowing: rinse mouth and drink plenty of water. Never induce vomiting.

1.4 WARNINGS, CAUTIONS AND NOTES

Safety terms in this manual and the contents of warning labels attached to the printer are categorized into the following three types, depending on the degree of risk (or the scale of accident).
Read the following explanations carefully and follow the instructions in this manual.

Safety terms	Details
⚠Important ⚠	Must be followed carefully to avoid death or serious bodily injury.
⚠Caution ⚠	Must be observed to avoid bodily injury (moderate or light) or damage to your equipment.
⚠Notes ⚠	Contains important information and useful tips on the operation of your printer.

1.5 SAFETY INSTRUCTIONS

Machines must be installed according to Mutoh's Installation Guide also after moving machines to another location; maintenance needs to be done according to the service manual.

To prevent fire or electrical shock, never use a power supply source other than the one rated for the product in the country where you purchased the product.

Use only the provided power cable. To prevent fire or electrical shock, follow the instructions below when handling the power cable:

- Do not cut or modify the cable.
- Do not put heavy objects on the cable.
- Do not bend, twist, knot or pull the cable.
- Do not wire the cable near equipment that generates heat.
- Do not use the cable with any other electrical device
- Do not handle the cable with wet hands

Be aware of all caution and warning labels to avoid potentially hazardous situations.

To prevent fire or electrical shock, machines must be connected to a properly grounded electrical power outlet. Do not connect the power cable to a power strip or a power source shared by other electrical devices.

- Make sure that no foreign substances such as dust etc. are stuck to the power plug.
- Make sure that the power plug is firmly inserted to the edge of the power socket.

Do not disable any safety precautions systems.

Do not operate the unit unless all parts are mounted.

Do not place the machine in the following areas. Doing so may result in the machine tipping or falling over and causing injury.

- Unstable surfaces
- Sloping floors
- Areas subject to vibration by other equipment

Do not stand on or place heavy objects on your machine. Doing so may result in the machine tipping or falling over and causing injury.

Do not place the machine in humid and dusty areas or in areas exposed to flammables. Doing so may result in electrical shock or fire.

Do not cover the ventilation hole of your machine with cloth, such as a blanket or table cloth. Doing so could obstruct ventilation and cause fire.

Do not insert or drop metal or inflammable objects into openings, such as ventilation outlets. Doing so may result in electrical shock and fire.

Do not touch the media guide during printing. It is hot and may cause a burn.

Do not touch the media feed slot, platen or media guide while heaters are operating. They are hot and may cause a burn.

Stop using your machine if a liquid has been spilled into it. This may cause electrical shock or fire. Switch the machine off as soon as possible, unplug the power cord, and contact your local MUTOH dealer.

Be sure to power OFF the machine and unplug the power cable from the outlet before cleaning the machine. Use a damp cloth to clean the machine. Do not use thinner, benzene, alcohol or other active agents. Doing so may result in damage or paint peeling from the casing.

Do not bend or pull the waste fluid tube. Doing so may cause waste fluid to leak out and malfunction of the product.

Do not tilt the machine, place it against a wall or turn it upside down. Doing so may cause ink to leak inside the machine. Movement after transport is also not covered by the warranty.

When cutting roll media, be careful of the following. Incorrect handling can result in injury to the hands and fingers from the razor blade.

- When holding the media, do not place fingers over the media cut groove.
- Move the razor blade slowly along the media cutting groove.

To prevent back pains and other injuries, always work with at least 4 people to unpack or move the machine. Keep the machine horizontally during transportation.

Do NOT transport the machine to another room without contacting your local Authorized Mutoh Dealer.

1.6 WARNING LABELS

Warning labels are attached on areas which require attention. Read and understand the positions and contents thoroughly before performing your work.

1.6.1 Handling the warning labels

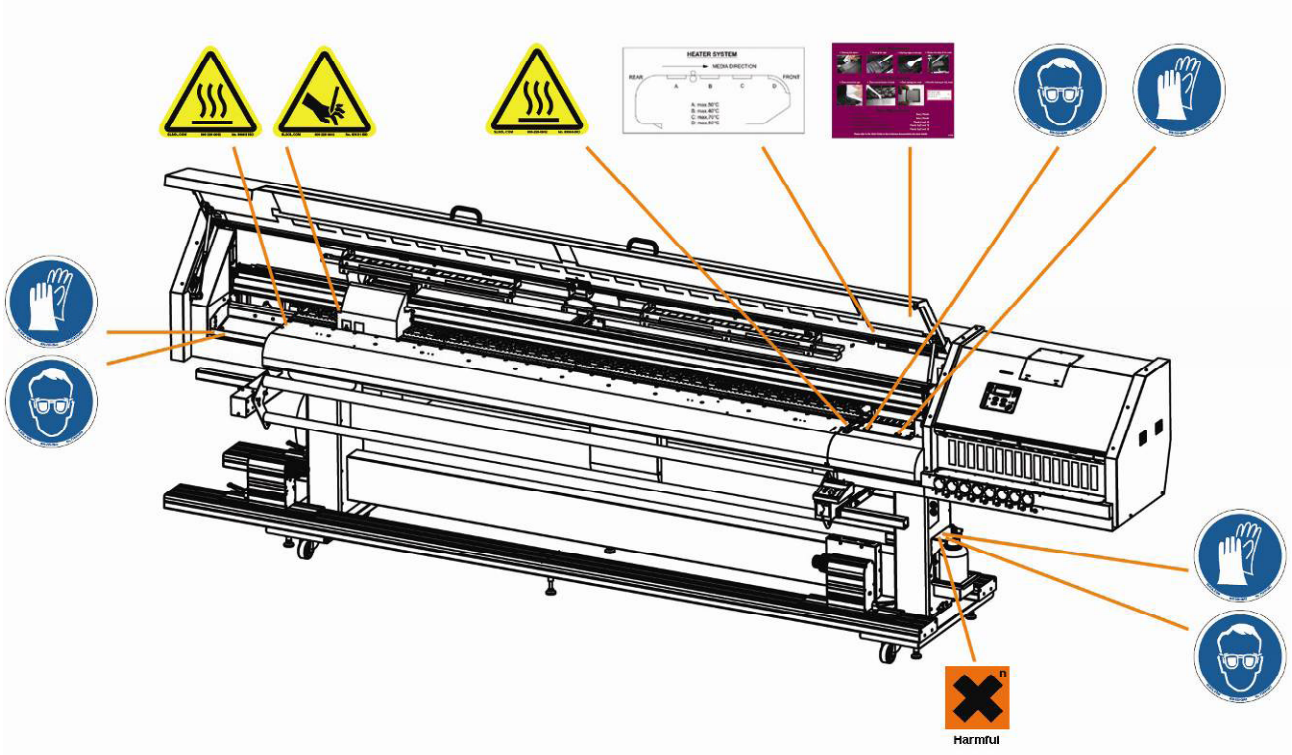
Be sure to note the following when handling the labels.

⚠ Notes ⚠

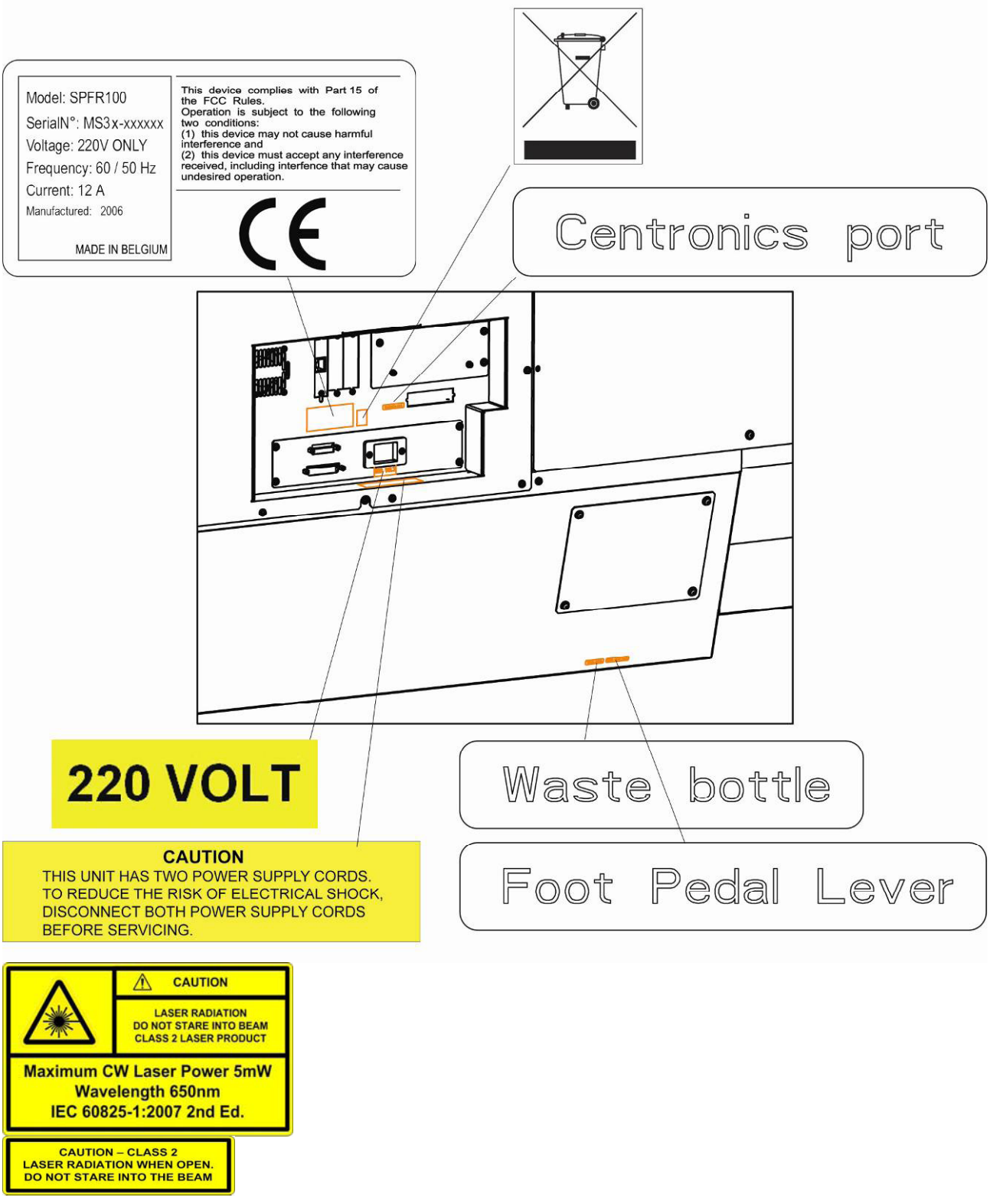
Make sure that all labels can be recognized. If text or illustrations cannot be seen clearly, either clean or replace the label.
When cleaning labels, use a cloth with water or neutral detergent. Do not use a solvent or gasoline.
If a warning label is damaged, lost or cannot be recognized, replace the label. When replacing warning labels, contact your local MUTOH dealer.

1.6.2 Position of the warning labels

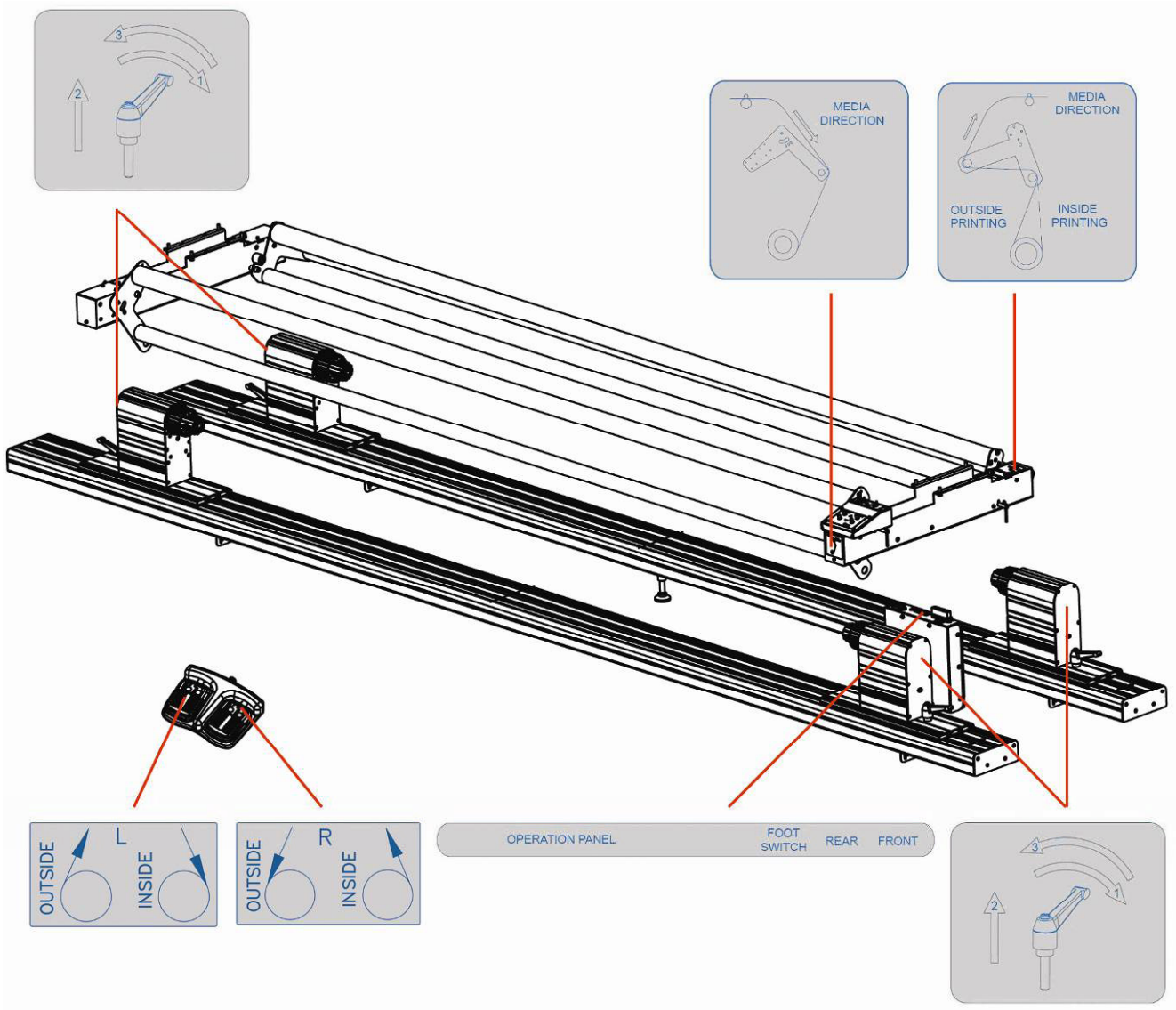
1.6.2.1 Front of the machine.



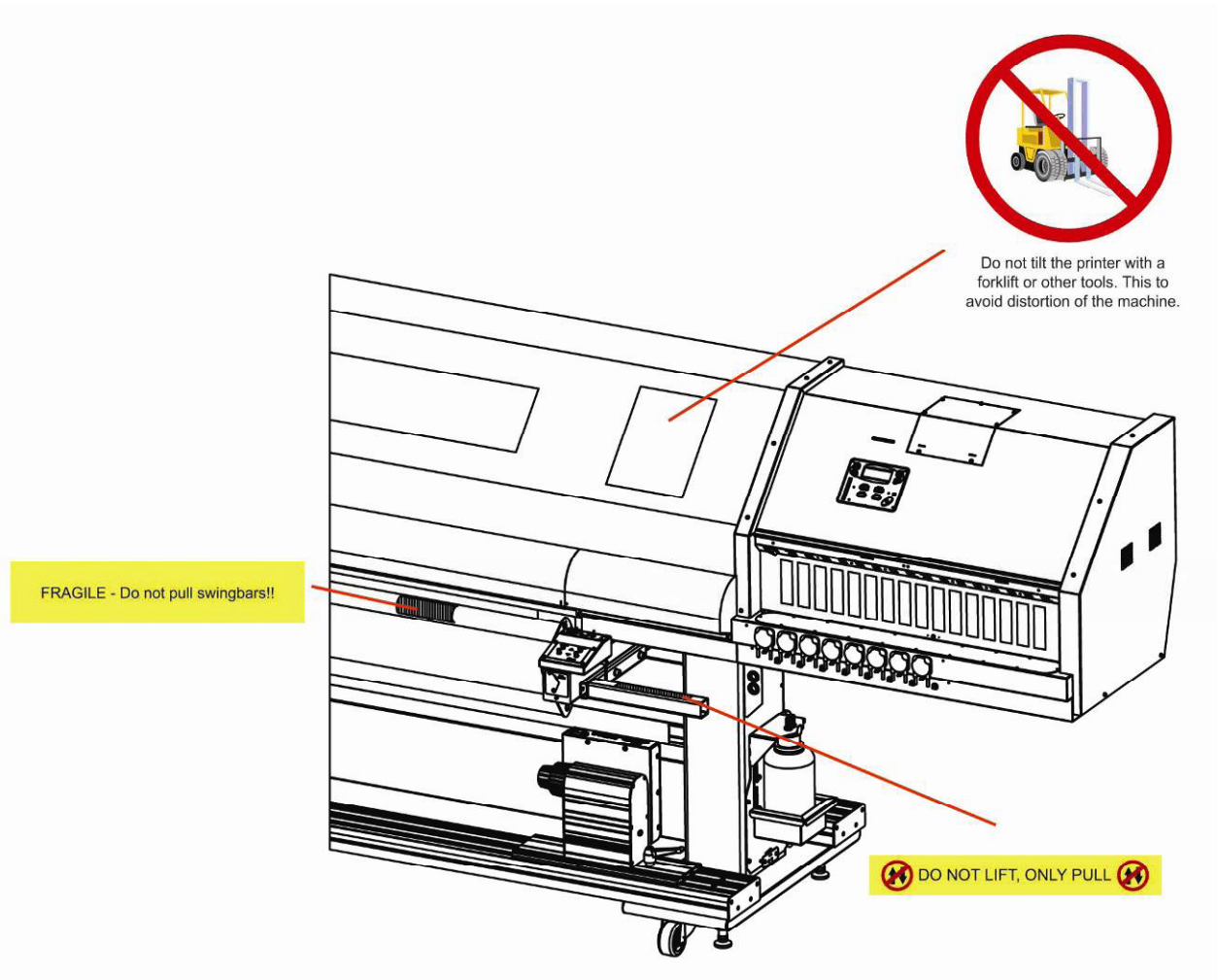
1.6.2.2 *Rear of the machine.*


Model: SPFR100
SerialN°: MS3x-xxxxxx
Voltage: 220V ONLY
Frequency: 60 / 50 Hz
Current: 12 A
Manufactured: 2006
MADE IN BELGIUM
This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) this device may not cause harmful interference and
(2) this device must accept any interference received, including interfence that may cause undesired operation.
Centronics port
220 VOLT
Waste bottle
CAUTION
THIS UNIT HAS TWO POWER SUPPLY CORDS.
TO REDUCE THE RISK OF ELECTRICAL SHOCK,
DISCONNECT BOTH POWER SUPPLY CORDS
BEFORE SERVICING.
Foot Pedal Lever
CAUTION
LASER RADIATION
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT
Maximum CW Laser Power 5mW
Wavelength 650nm
IEC 60825-1:2007 2nd Ed.
CAUTION – CLASS 2
LASER RADIATION WHEN OPEN.
DO NOT STARE INTO THE BEAM

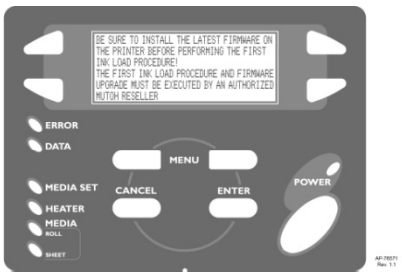
1.6.2.3 Types of warning labels on the winding system.

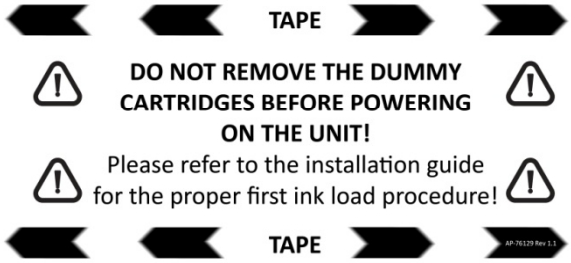


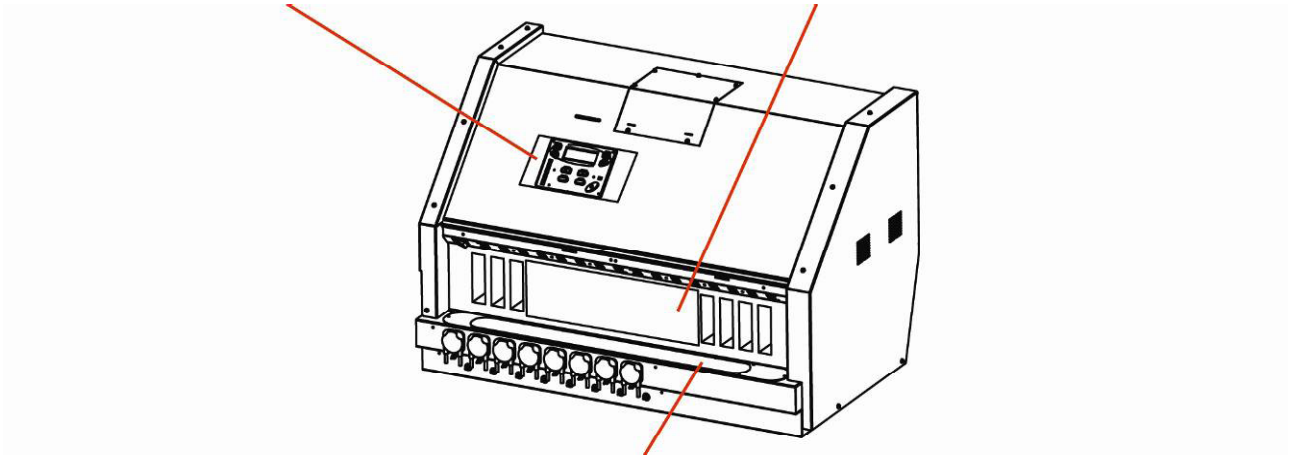
1.6.3 Labels in function of transportation

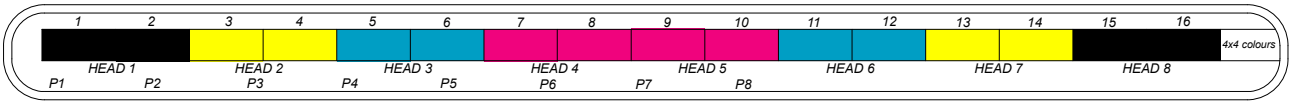

Do not tilt the printer with a forklift or other tools. This to avoid distortion of the machine.
FRAGILE - Do not pull swingbars!!
DO NOT LIFT, ONLY PULL

1.6.4 Ink related labels.




TAPE
DO NOT REMOVE THE DUMMY CARTRIDGES BEFORE POWERING ON THE UNIT!
Please refer to the installation guide for the proper first ink load procedure!
TAPE





2 PRODUCT OVERVIEW

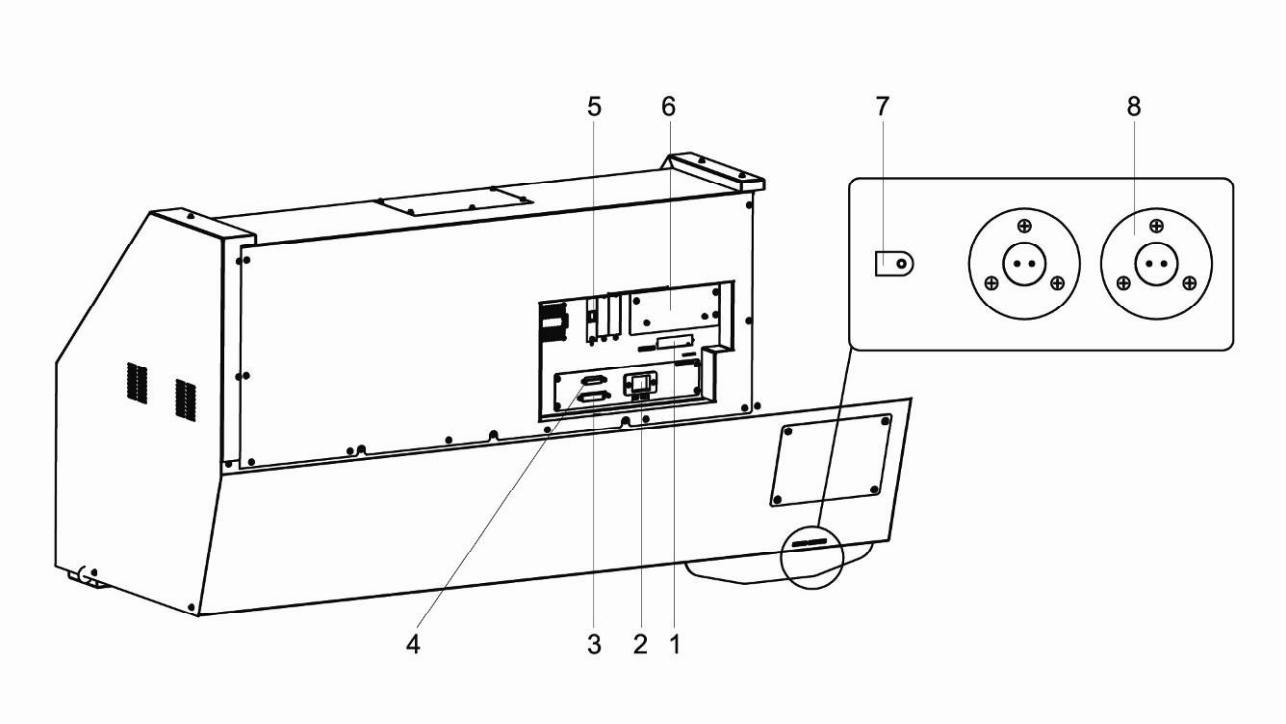
2.1 Part names and functions 18
2.1.1 Front 18
2.1.2 Rear 19
2.1.3 Heater system 20
2.1.4 Operation panel 21
2.1.4.1 Printer 21
2.1.4.2 Winding System 23
2.2 Installation requirements 24
2.2.1 Environment 24
2.2.2 Working space 25

2.1 PART NAMES AND FUNCTIONS

2.1.1 *Front*

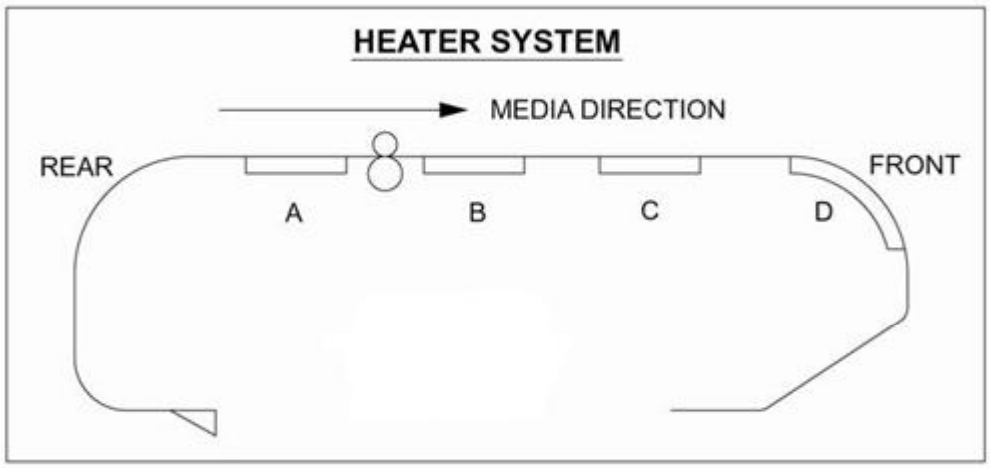
N°	Name	Function
1	Maintenance Area	To perform a part of the daily and weekly maintenance. For example cleaning around the heads. A mirror has been installed to optimize sight.
2	Paper Guide	Support the media during printing.
3	Front cover	This cover keeps the operator safe from the drive parts of the printer while it is operating. Only open and or close the cover to perform following operations. Media set and replacement Cutter blade replacement Cleaning the wipers and other maintenance In case of media jams
4	TL light switch	To light up the TL lights (blue and white)
5	Operation panel	This panel is used to set operational conditions, the status of the printer and other functions.
6	SmartChip Management System	To control the ink volume on your printer
7	Ink compartment	Sixteen slots available to install ink cassettes.
8	LED indicators	Indicates if there is a cassette in the slot below the LED and if it is empty or not.
9	Waste bottle	To collect the waste fluid. Should be emptied according to the procedure described in this manual.
10	Stand	This stand is used to install the printer on a flat surface floor.
11	Unwinder/Winder PCB Box	This box contains all electronics to control the unwinder winder 100 system.
12	Winder system	Motorized roll-up system.
13	Unwinder/Winder control panel	To control the complete unwinder/winder 100 system.
14	Front swingbar	To adjust the tension of the media and to optimize the winding of the media.

2.1.2 Rear



N°	Name	Function
1	Interface connector	This is the connector to which the interface cable is connected
2	AC inlet	This is the inlet interface to which the power plug is connected
3	BIS - CLIB	To connect the optional Bulk Ink System
4	BIS - Sensors	To connect the sensor cable of the optional Bulk Ink System with the printer
5	Insertion slot	Network card installed. To connect the network cable
6	Hard disk slot	For the hard disk
7	Waste bottle connector	To connect the waste bottle sensor cable
8	Foot switch connectors	To connect the footswitches to lower or higher the pressure rollers

2.1.3 Heater system



Heater Element	Temperature	Function
Pre-heater (Heater A)	20 – 50°C	→ Open the pores to make the media more receptive for Spitfire Mild Solvent series Ink.
Fixer (Heater B)	20 – 40°C (for MS - MS Plus) 20-70°C (for Eco)	→ To establish optimum fixation onto the media (coated and uncoated). → Optimizes the dot gain control.
Post-Fixer (Heater C)	20 – 70°C	→ The post-fixer finalizes the fixation process and helps to make the prints touch-dry.
Dryer (Heater D)	20 – 50°C	→ The dryer completes the drying for compatibility with the take-up in combination with higher output speeds.

There have been a number of requests from the field, asking the heaters to be on by default for a few user settings. This has now been implemented as follows:

For user 1 and user 8 default settings are as follows:

a. Pre heater A: 50°C
b. Fixer B: 40°C
c. Post Fixer C: 50°C
d. Dryer D: 50°C

For users 2 ➔ 7, by default the heaters are still OFF.

⚠ Notes ⚠

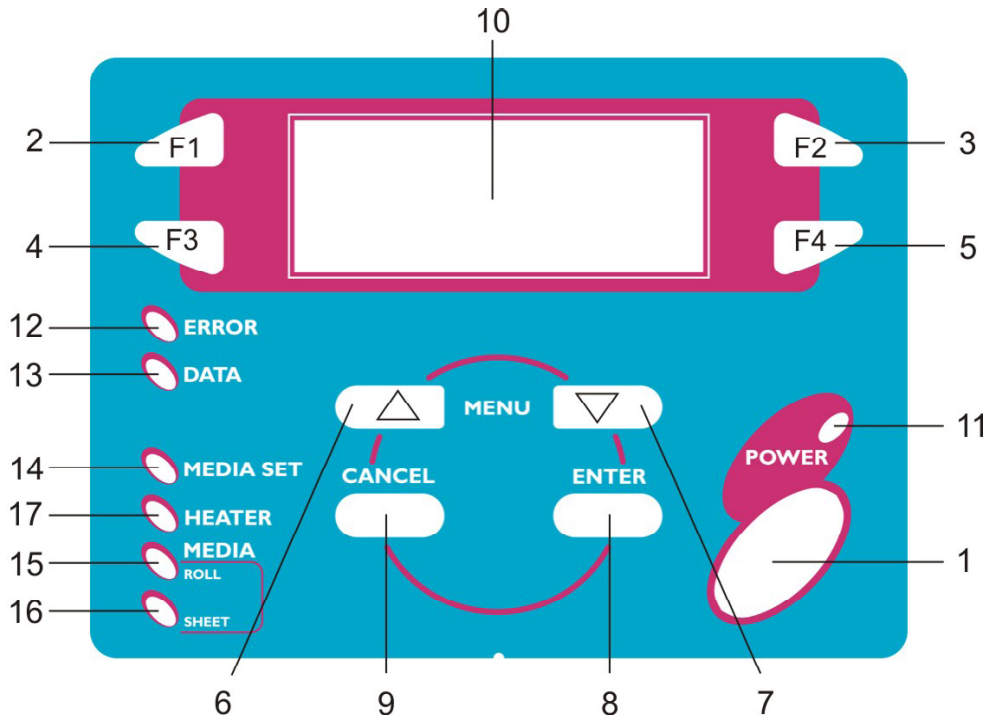
Please note some RIP software do not allow selection of the user from software side. In some cases, however, they do automatically activate user 8

2.1.4 Operation panel

2.1.4.1 Printer

The operation panel is used to set operational conditions, display the status of the printer, and set other functions.

The names and functions of the operation keys and status lamps are explained below.



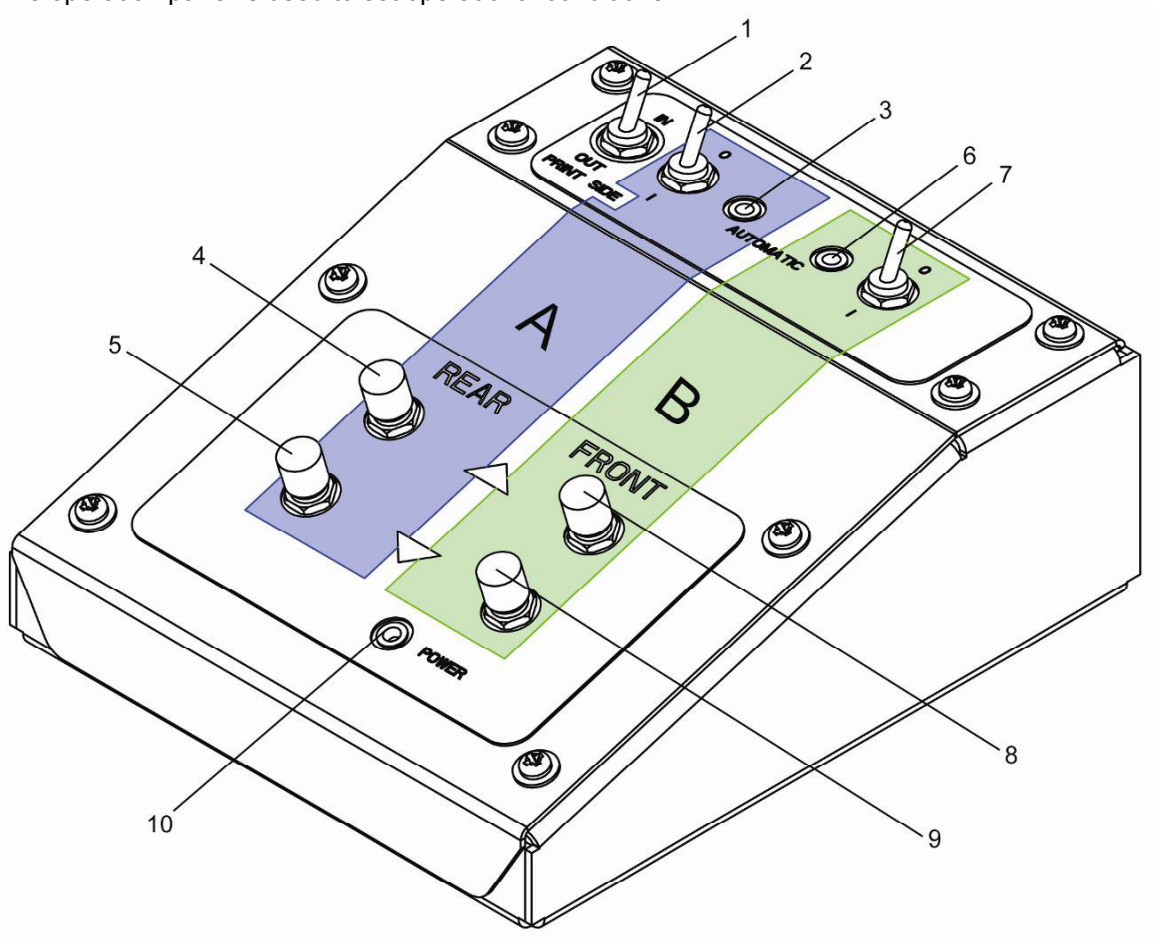
KEYS

N°	Name	In the Main Screen	In the Setup Menu
1	POWER	Switch the printer ON and OFF	Switch the printer ON and OFF
2	F1	Executes the function assigned to F1.	Executes the function assigned to F1.
3	F2	Executes the function assigned to F2.	Executes the function assigned to F2.
4	F3	Executes the function assigned to F3.	Executes the function assigned to F3.
5	F4	Executes the function assigned to F4.	Executes the function assigned to F4.
6	MENU ▲	Changes the LCD monitor display to the setup menu status.	Changes the menu in reverse order.
7	MENU ▼	Changes the LCD monitor display to setup menu status.	Changes the menu in forward order.
8	ENTER	Displays the print mode currently set.	Confirm a new value, feature change.
9	CANCEL	-	Declines a new value, feature change.

LCD and LEDS				
N°	Name	Colour	Status	Function
10		Green	-	The monitor displays the operation status and error messages of the printer.
11		Green	ON	The printer is on.
			OFF	The printer is off.
12		Red	Flashing	An error has occurred. The contents will be displayed on the LCD monitor.
			OFF	Either there is no error or the power is off.
13		Orange	ON	The printer is receiving print data.
			Flashing	The printer is analyzing received data.
			OFF	The printer is waiting to receive print data.
14		Orange	ON	The pressure roller is in the release position. Media has not been loaded.
			OFF	The pressure roller is in the secured position. The media has not been loaded.
15		Orange	ON	The temperature of the heating elements is at the requested temperature. The real temperature is the same as the requested temperature.
			Flashing	The heating elements are warming up. The real temperature is different from the requested temperature.
			OFF	The heating elements are powered OFF.
16		Orange	ON	The media type is set to roll media.
			OFF	The media type is set to sheet media.
17		Orange	ON	The media type is set to sheet media.
			OFF	The media type is set to roll media.

2.1.4.2 *Winding System*

The operation panel is used to set operational conditions.



N°	Name		Function	
A	/		Part of the operation panel controlling the unwinder 100.	
B	/		Part of the operation panel controlling the winder 100.	
1	Print Side Selector		In case you loaded media with printed side on the outside select 'OUT', otherwise select 'IN'.	
2	Unwinder 100 switch		Toggle between Manual ("0") and Automatic ("I") mode.	
3	Unwinder 100 LED	Manual	LED lights up when pushing one of the buttons Motor turns: LED flashes. Motor is off: LED is out. Motor accelerates: LED burns continuously.	
		Automatic		
			Outside printing	Inside printing
4	Backwards button		Roll-off unwinder	Roll-up unwinder
5	Forwards button		Roll-up unwinder	Roll-off unwinder
6	Winder 100 switch		Toggle between Manual ("0") and Automatic ("I") mode.	
7	Winder 100 LED	Manual	LED lights up when pushing one of the buttons Motor turns: LED flashes Motor is off: LED is out.	
		Automatic		
			Outside printing	Inside printing
8	Backwards button		Roll-off winder	Roll-off winder
9	Forwards button		Roll-up winder	Roll-up winder
10	Power LED		Lightens up if the system is powered ON.	

2.2 INSTALLATION REQUIREMENTS

It is very important that the installation environment fulfils following conditions to obtain a good print quality.

2.2.1 Environment

Choose a place for printer installation following the requirements in the table below.

Dimension machine	
Area (printer only)	3,915 m² (42 ft²)

Total weight machine	Without media	± 500 kg (1100 Lb)
	With media	± 600 kg (1430 Lb)
Maximum load on one wheel		200 kg (440 Lb)

		Printer	Winding System
Electrical	Voltage	**AC 220-240V**	**AC 100-120V / AC 220-240V**
	Frequency	50Hz±1Hz	60Hz, 50Hz±1Hz
	Capacity	AC220V-240V : 12A	AC100V-120V : 0.3 A AC220V-240V : 0.13 A
Maximum capacity		2500 Watt	
In order to protect the printer for over currents, short circuits and earth faults, the building installation should be equipped with an automatic breaker double pole of 20 A and an earth leakage switch of 300 mA.			
Environmental	Recommended working environment	Temperature: 23°C Humidity: 55%, without condensation	
	Operational conditions	Temperature: 20°C - 30°C Humidity: 40% to 65%, without condensation	
	Rate of change	Temperature: No more than 2°C per hour Humidity: No more than 5% per hour	
	Storage environment	Temperature: 4°C to 50°C Humidity: 40 to 80%, without condensation (When ink has been discharged.)	

⚠ Notes ⚠

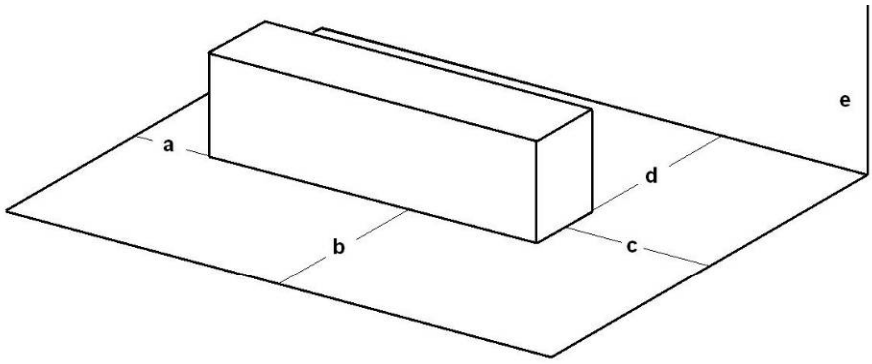
Avoid the following temperature and humidity conditions. Otherwise, printed images may appear differently from what you expect:

- Places where sudden changes in temperature and humidity are expected, even though the condition is within the range written above.
- Places where direct sunlight or excessive lighting are expected.
- Places where air conditioners blow directly.

MUTOH recommends that the printer should be installed where air conditioning can be adjusted easily.

2.2.2 Working space

Install the product on a flat surface that fulfils following conditions:



Recommended space
A = 1 meter
B = 2 meter
C = 2.5 meter
D = 2 meter
E = 3 meter

⚠ Notes ⚠

These are recommended values. When loading media with a trolley or manually, different values should be used.

3 BASICS

3.1 Powering on 29
3.2 Powering OFF 30
3.3 Switch ON-OFF the winding system. 31
3.4 Media handling 32
3.4.1 Setting media type in detail 32
3.4.2 Loading Roll media 33
3.4.3 Loading sheet media 38
3.4.4 Using media retainers. 39
3.4.5 Using the media core braces. 40
3.5 Ink cassettes 41
3.5.1 Ink cassette behaviour 41
3.5.2 Types 42
3.5.3 Replacement procedure 42
3.6 Replacing the cutting blade 43
3.6.1 Replacement time 43
3.6.2 Replacement procedure 43
3.7 Replacing the waste bottle 44
3.7.1 Replacement Time 44
3.7.2 Replacement Procedures 44
3.8 Working with Mutoh's SmartChip management System 45
3.8.1 Introduction 45
3.8.2 Selecting the correct modes 46
3.8.3 Transferring ink volume 47
3.8.3.1 Via the smart chip reader slot 47
3.8.3.2 Via the Cassette slots of the printer. 48
3.9 Switch between ink configurations. 49
3.10 Unattended printing or leave printer idle during night 50
3.10.1 Unattended Printing. 50
3.10.2 Leave your printer IDLE during night. 51
3.11 LongStore 52
3.11.1 Procedure to LongStore 53

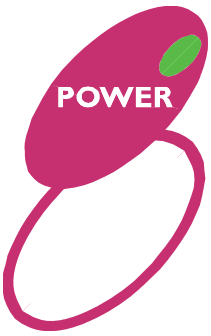
3.11.2 Starting up after a LongStore. 54
3.12 Transferring the printer 56
3.12.1 Hints, tips and warnings 56
3.12.2 Transferring the printer 57

3.1 POWERING ON

⚠ Caution ⚠

Before powering ON the printer, make sure that the waste bottle is installed and that the waste tubes are connected to the waste bottle.

Step 1 : Press the [POWER] key of the operation panel.
The POWER lamp of the operation panel will light (green).



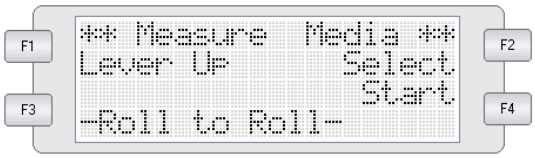
Step 2 : The printer will ask if you want to clean the wipers. When it is the first start up in a few hours, it is highly recommended to press [YES] – [F2] and to clean the wipers with Mutoh Mild cleaning in order to remove all ink and to make the wipers more elastic.

Step 3 : Press the ENTER key when you have done. The carriage will cap in again.

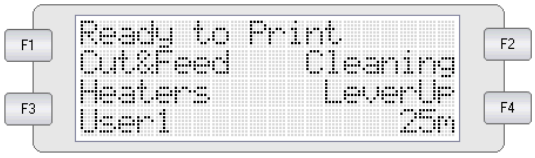
Step 4 : After finishing the daily maintenance, the print will automatically perform a normal cleaning.

Step 5 : After finishing the cleaning cycle, the media measurement screen will be displayed (in case there is media loaded)

Step 6 : Make the correct settings and press the [F4]-key to start the media initialization.



Step 7 : If everything is done correctly, the following screen should appear.



⚠ Notes ⚠

If there are any problems during the initial start-up operation, the printer will display a message, and the operation may stop. If the operation stops, refer to "Troubleshooting", and take the appropriate actions.

Step 8 : Before start printing, be sure to perform a nozzle check to ensure all nozzles are present. If not, perform the necessary cleaning cycles.

3.2 POWERING OFF

⚠ Notes ⚠

Please be sure to perform the necessary maintenance before powering OFF the machine. All details can be found in chapter 4.

Step 1 : Verify the following regarding the operational condition of the printer:

- There is no printing operation being performed.
- The operation panel is in the main screen.

Step 2 : Press the [POWER] key of the operation panel to switch OFF the printer.

Step 3 : [Power OFF] will be displayed for a few seconds

- Following message is displayed.

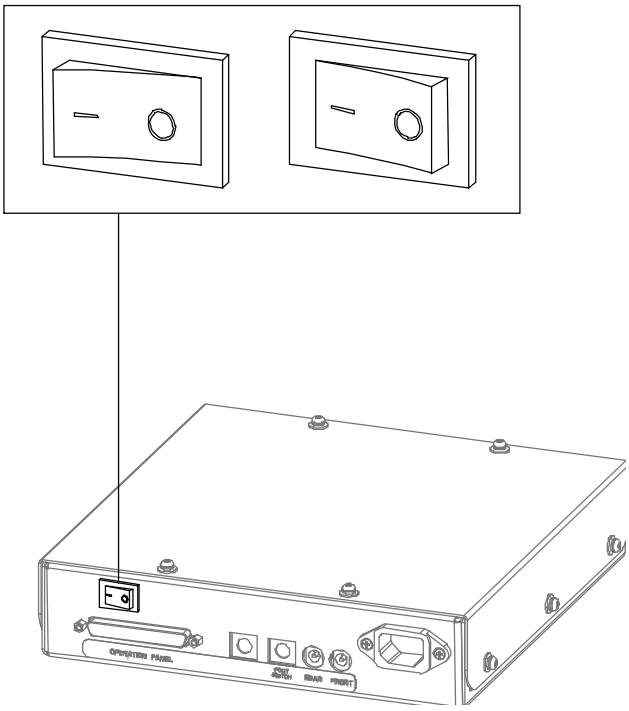
- All lamps and the LCD of the operation panel will switch OFF.
- The printer will automatically perform a Tubing Flush and power OFF.

3.3 SWITCH ON-OFF THE WINDING SYSTEM.

There is a switch located on the power supply box of the winding system.

Its status is marked with "O" and "I".

"I"	Switched ON	Power LED on control panel of winding system will light up
"O"	Switched OFF	Power LED on control panel of winding system will not be lid.

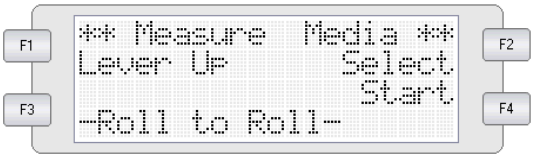


3.4 MEDIA HANDLING

Loading, installing and setting media are very important handlings when you want to obtain a perfect print quality. When the media is not loaded centrally, not installed properly… head crashes, banding can occur. Also the complete winding system should be installed and aligned properly by an Authorized Mutoh Technician.

3.4.1 Setting media type in detail

After lowering the pressure rollers, you will be asked *each time* to set the media type. Even if it is a sheet of roll, different profiles are possible to select.

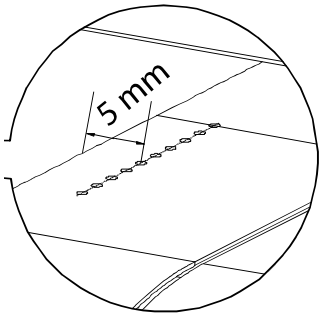


[F1]-key Lever UP
[F2]-key Browse through the media profiles (lower left corner)
[F4]-key Start media measurement using the Selected profile in the lower left corner.

Please find below the different profiles and decide which one to use.

	OFF	Roll LeftRight (**)	Roll LeftRightTop (**)	Roll to Roll	Sheet
Measurement	None (*)	Left Right	Left Right Top	Left Right	Left Right Top Bottom
Take Up	Not used	Not used	Not used	Used	Not used
SlantCheck	No	Yes	Yes	Yes	No
Cutting media possible?	Yes	Yes	Yes	Yes (no auto cut)	Yes
Cut Test	No	No	Yes	No	Yes
Feeder speed	Low	Low	Low	Low	High

(*) Load the media at the right side of the printer. Position the media next to the media setting position (line of little holes in the media guide platform). The maximum distance between the guideline and media is 5 mm. Set the width of the media in the Utility menu in SetupMenu 4/7.



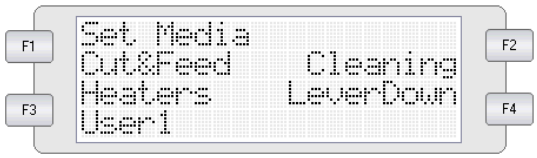
(**) Use "Roll LeftRight" for flexible media and "Roll LeftRightTop" for rigid media. In the second option, a media cut test will be performed which means scrolling back and forward of the media (backwards feeding). When loading flexible media, it could get stuck into the media groove and can cause head strikes.

3.4.2 Loading Roll media

Please follow the procedure below to install and load roll media.

Step 1 : Make sure the printer and Unwinder/Winder 100 are switched ON.

Step 2 : Press the [F4] key in the main menu to raise the pressure rollers or use the foot pedal of the printer.



Step 3 : Open the front cover carefully using both handles.

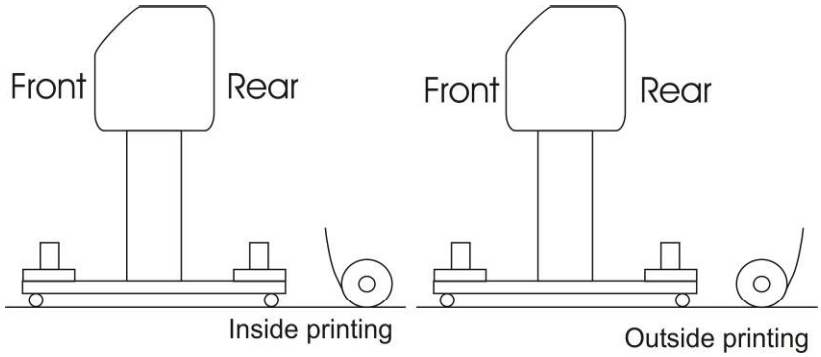
Step 4 : Make sure both unwinder (REAR) and winder (FRONT) unit are set to MANUAL mode.

Step 5 : Consider the specifications of the printer before loading media:

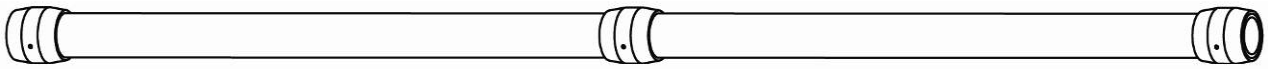
	Metrical	Imperial
Maximum loading capacity	100 kg	220 lb
Maximum width	2604 mm	102.5 in
Inner core diameter	50.8 mm or 76.2 mm	2 in or 3 in

Step 6 : Remove the packaging of the media roll.

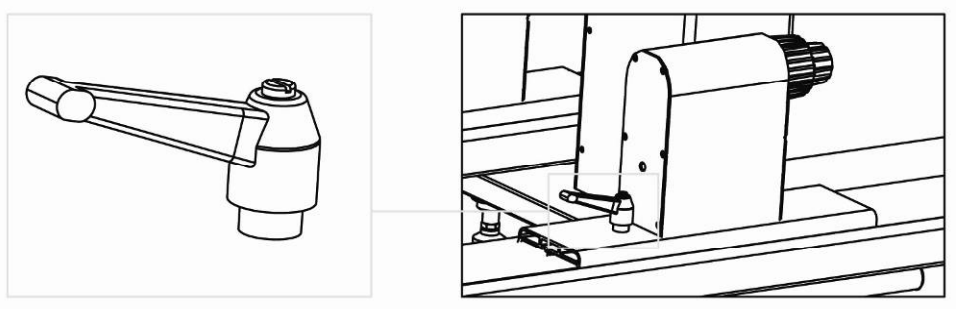
Step 7 : Check whether the media is inside or outside printable. This affects the installation method on the unwinder at the rear of the machine.



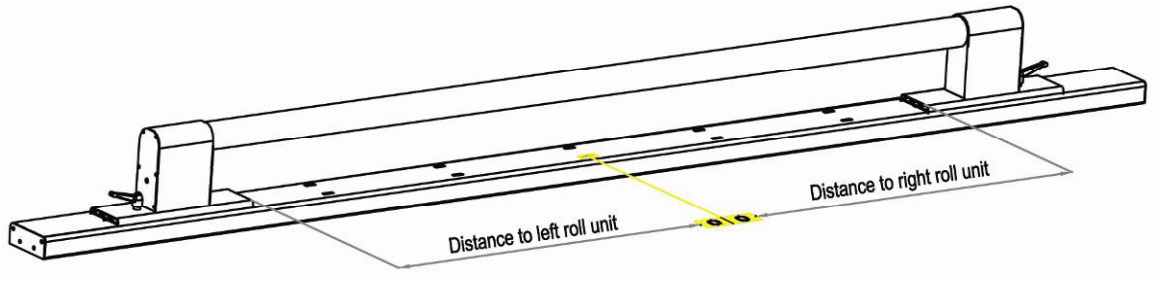
Step 8 : Install a media core brace in case the media is wider than 2 meter. This to prevent the media to bend.



Step 9 : Install the media between the two roll units at the back of the machine. Loosen the handles to move the roll units left and right.



Step 10 : Be sure that the media is loaded centrally. This to be sure that the media is wound up straight. This can be easily checked by the yellow labels on the winding rails. Be sure to mount the left and right roll unit on the same distance from the 0I0 label.

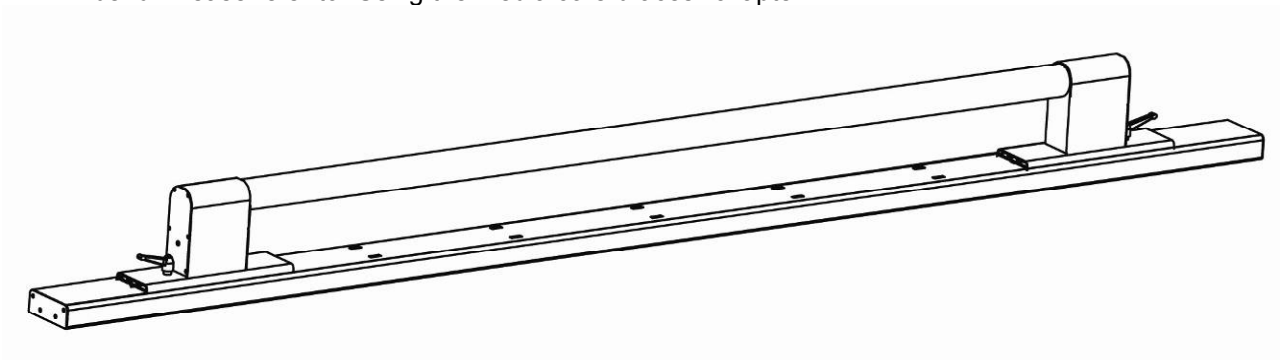


Step 11 : Install an empty core between the front roll units.

A. Make sure the core is longer than the media width.

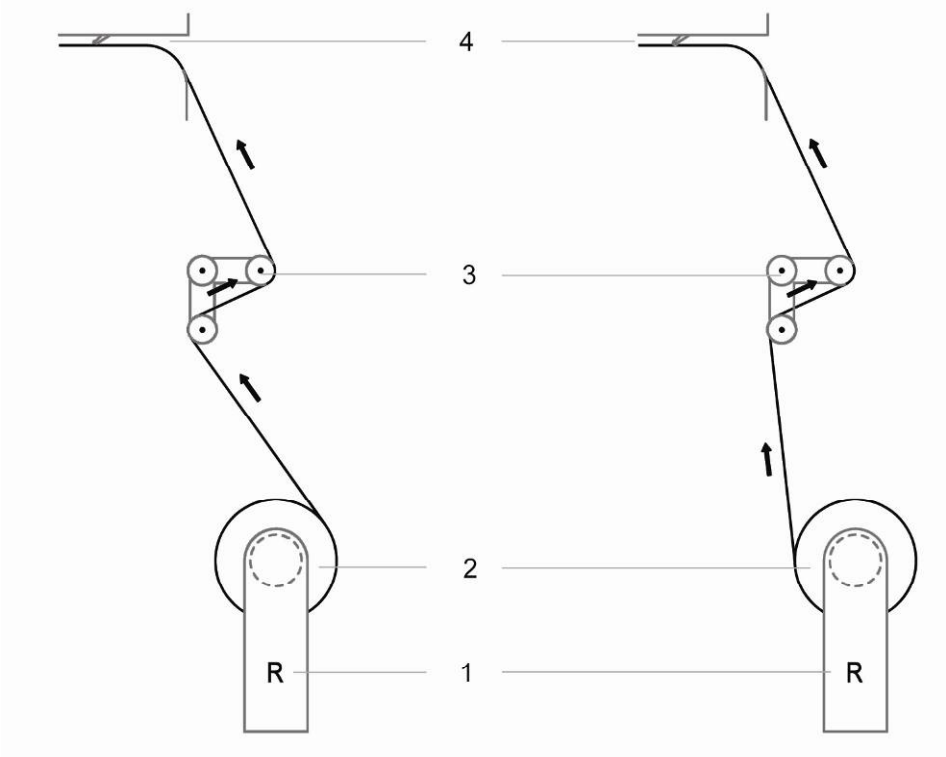
B. Load it centrally as described in previous step

C. Install a media core brace in case the media is wider than 2 meter. This to prevent the media to bend. Please refer to "Using the media core braces"-chapter.



Step 12 : Use the foot-switch to release some media on the rear.

Step 13 : Load media through the rear swingbar, over the print platform, under the pressure rollers as pictured below.

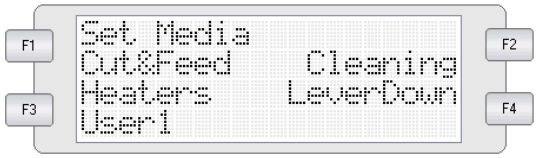


Outside printable Inside Printable

1	Roll unit
2	Media roll
3	Rear swingbar
4	Print platform and pressure rollers

Step 14 : Take the media on the front of the printer and pull until the rear tensioning system gently hits the back of the machine. This to become an equal tension.

Step 15 : Lower the pressure rollers by pressing the F4 key or using the foot pedal.



Step 16 : Set the unwinder (REAR) unit to AUTOMATIC.
The rear tensioning system will go to its initial position.

⚠ Notes ⚠

Be sure to make the correct settings on the control panel of the winding system.

Step 17 : Decide which kind of media measurement should be done. The following profiles are available.

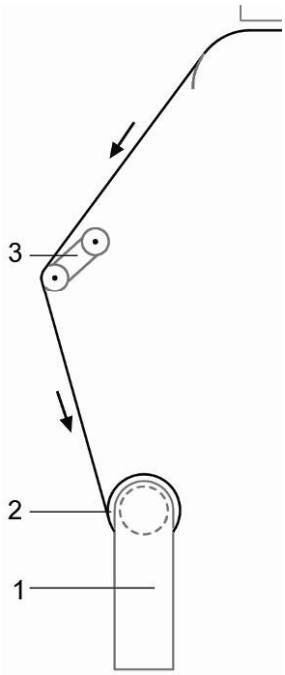
Profiles / Settings	OFF	Roll LeftRight (**)	Roll LeftRightTop (**)	Roll to Roll
Measurement	None (*)	Left Right	Left Right Top	Left Right
Take Up	Not used	Not used	Not used	Used
SlantCheck	No	Yes	Yes	Yes
Cutting media possible?	Yes	Yes	Yes	Yes (no auto cut)
Cut Test	No	No	Yes	No
Feeder speed	Low	Low	Low	Low

(*) Align media to media guide dots on the print platform. Set width in Utility menu.

(**) Use "Roll LeftRight" for flexible media and "Roll LeftRightTop" for rigid media. In the second option, a media cut test will be performed which means scrolling back and forward of the media (backwards feeding). When loading flexible media, it could get stuck into the media groove and can cause head strikes.

Go to **step 20** when you have chosen for *OFF* - *Roll LeftRight* or *Roll LeftRightTop*. When you have chosen for Roll to Roll, go to **step 18**

Step 18 : Forward the media until you can stick it to the core installed between the front roll units. Make sure to have an equal tension on both sides of the media.



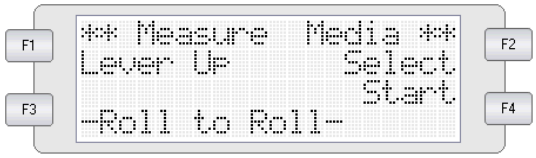
1	Roll unit
2	Empty core
3	Front swingbar

⚠ HINT ⚠

To ease the winding up of the media on the front core, it is permitted to cut the media in a V-shape.

Step 19 : Tighten the media straight to the core with tape.

Step 20 : After closing the front cover, the media initialize will start.



[F1]-key Lever UP
[F2]-key Browse through the different profiles for media measurement
[F4]-key Start media measurement using the selected profile in the lower left corner

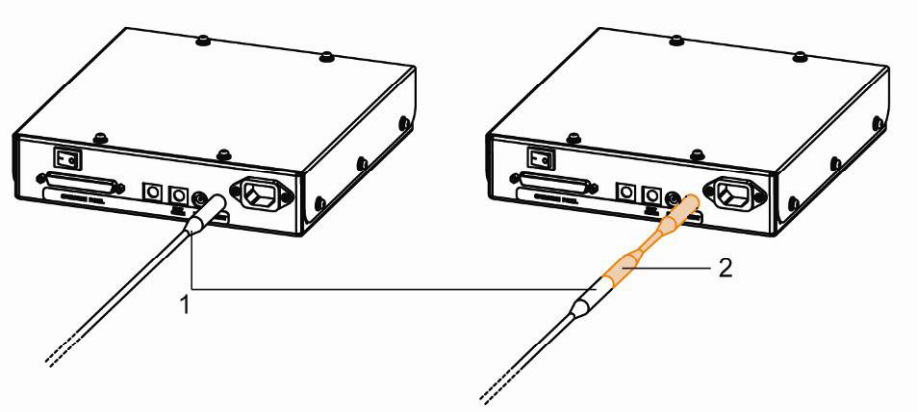
Step 21 : Set the winder (FRONT) unit to ACTIVE. The front tensioning system will be activated.

Step 22 : Install the media retainers if necessary as explained in one of the next chapters.

Step 23 : Installation of the media is completed.

⚠ Notes ⚠

With a small intervention it is possible to reverse your winding direction. Mount the twist cable between the control box and the front motorized unit cable.



1 Normal winding direction
2 Twisted motor cable attached

3.4.3 Loading sheet media

Please follow the procedure below to load sheet media.

Step 1 : Make sure the printer is switched ON.

Step 2 : Press the [F4] key in the main menu to raise the pressure rollers or use the foot pedal of the printer.

Step 3 : Open the front cover carefully using both handles.

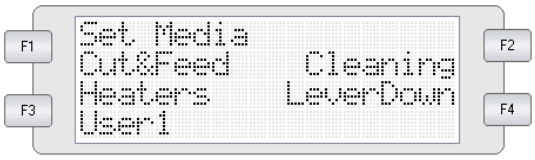
Step 4 : Consider the specifications of the printer before loading a sheet:

	Metrical	Imperial
Maximum media width	2604 mm	102.5 in
Maximum printing width	2594 mm	102.13 in

Step 5 : Slide a sheet over the print platform, under the pressure rollers.

Step 6 : Pay attention that the sheet is loaded straight to avoid slant errors.

Step 7 : Lower the pressure rollers by pressing the **F4** key or using the foot pedal.

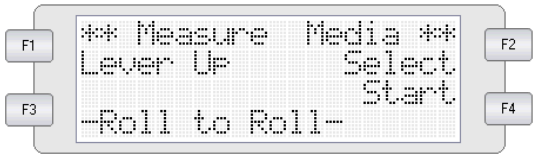


Step 8 : Decide which kind of media measurement should be done. The following profiles are available.

Profiles / Settings	OFF	Sheet
Measurement	None (*)	Left – Right – Top - Bottom
Take Up	Not used	Not used
SlantCheck	No	No
Cutting media possible?	Yes	Yes
Cut Test	No	Yes
Feeder speed	Low	High

(*) Align media to media guide dots on the print platform. Set width in Utility menu.

Step 9 : After closing the front cover, the media initialize will start.



[F1]-key Lever UP
[F2]-key Browse through the different profiles for media measurement
[F4]-key Start media measurement using the selected profile in the lower left corner

Step 10 : Install media retainers if necessary as explained in next chapter.

Step 11 : Installation of a sheet is finished. You can start printing.

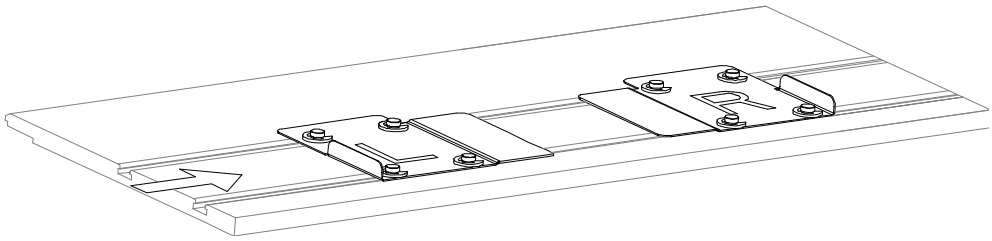
3.4.4 Using media retainers.

Some media are fragile to cockling. When installing the media retainers at the edge of the media, the media is kept down and the risk of head crashes and bad print quality is smaller.

⚠ Caution ⚠

Never use the media retainers when working in CutSheet mode or with a sheet.

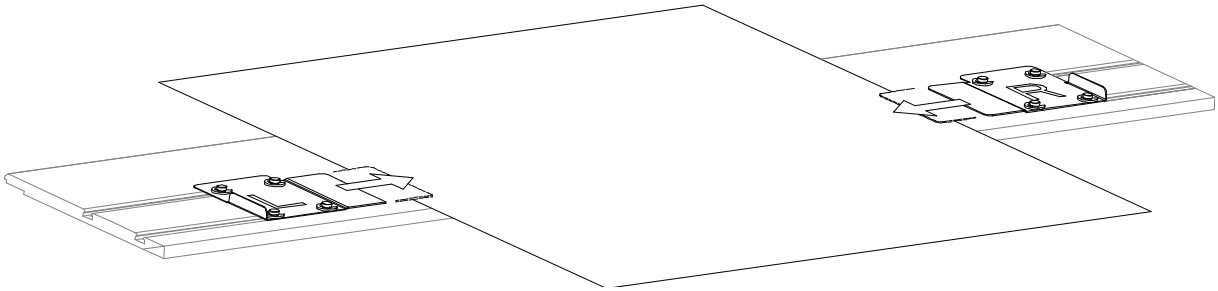
Step 1 : Mount as well the left as right media retainer in the grooves. Always insert them from the left side of the machine. Be sure the pins are correctly installed in the grooves.



Step 2 : Move the right media retainer to the far right side and the left media retainer to the most left side.

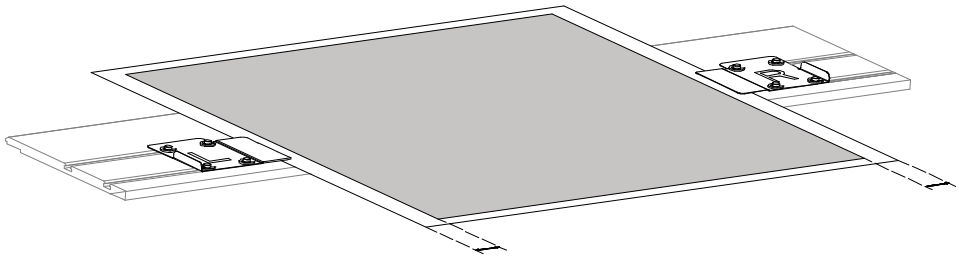
Step 3 : Install the roll media as explained in previous chapters.

Step 4 : After the initializing of the paper, shove the media retainers over the media edges.



⚠ Caution ⚠

Do not push the media retainers as far as possible over the media, otherwise the printed file will go under the media retainer and will leave a mark.
The media retainer should not come further over the media as the minimum margin. This is 5 mm.



margin of 5 mm

Step 5 : You are ready to print.

3.4.5 Using the media core braces.

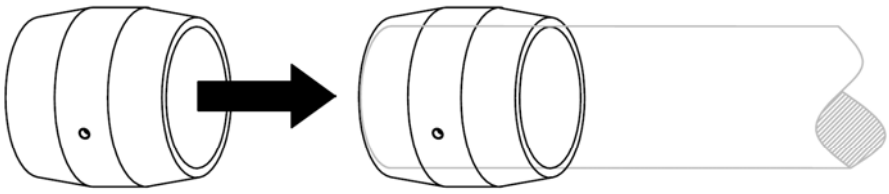
Media core braces are developed to prevent the media cores to bend while printing. This could cause bad print quality or paper slant.

From the moment the core is larger than 2050 mm, we recommend installing the brace. *Do NOT install the brace when the core is smaller than 2050 mm.*

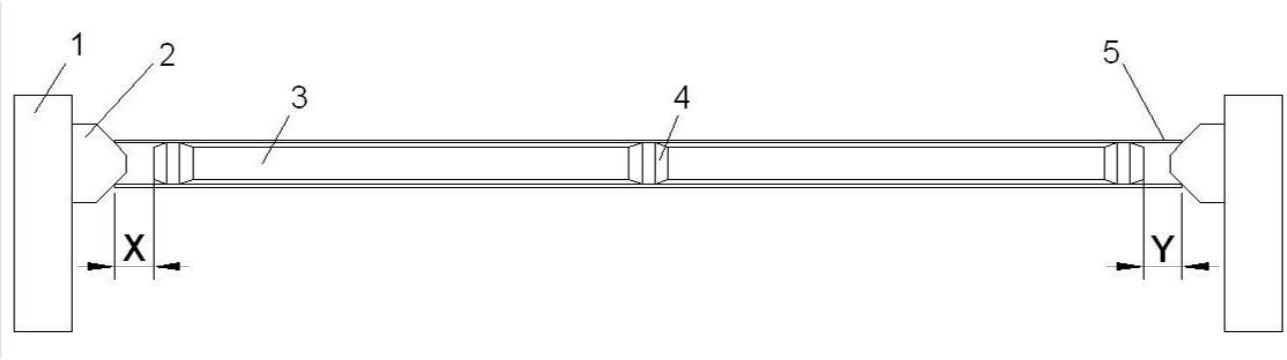
In the packaging box of the machine you will find two cores and two media core braces. There are already 3 spacers installed per brace with an outer diameter of 74 mm. In box 3/4 there are 6 spacers of 76 mm.

Please follow the instructions below to install and use the braces correctly.

Step 1 : First check which spacer fits the best in the used core. If this one is not installed yet, remove the installed one with a Hexagon Wrench 2 mm (in box 2/4) and install the correct one as shown below. There is already a hole in the core in which the locking screw fits.



Step 2 : Push the brace in the core. (Picture 1).
Be sure that the distance X is the same as Y (picture 2) and at least 75 mm.



N°	Description
1	Roll Unit
2	Positioning Cone
3	Media Core Brace of 1900 mm
4	Spacer
5	Core of minimum 2050 mm

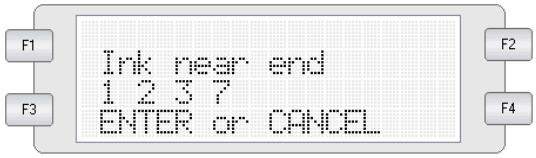
3.5 INK CASSETTES

3.5.1 *Ink cassette behaviour*

Please read this chapter thoroughly to know the behaviour of a Mutoh ink cassette used with the Spitfire 100 Extreme.

An ink cassette contains 220 or 440 ml of ink. The amount of ink left in the cassette is monitored by the smart chip installed on the cassette. During printing, two ink related messages can be displayed:

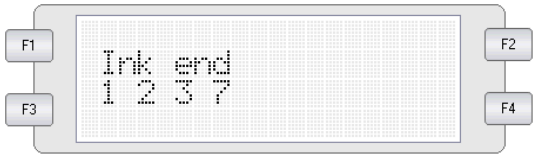
Ink Near End – message



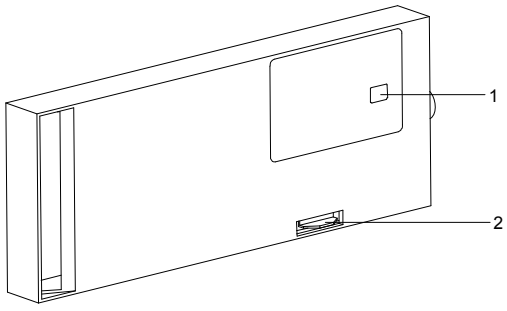
This message will be displayed when there is only 6 % of ink left in the ink cassette. The numbers correspond the near empty ink cassettes.

You can print until the [Ink End]-message is displayed. Be sure to have a new cassette at hand.

Ink End – message



This message will be displayed when the flag *(2)* in the cassette comes out. The cassette has to be changed as soon as possible. The printer will stop all actions. No further action can be taken until you have done the replacement. The numbers correspond the near empty ink cassettes.



3.5.2 Types

⚠ Important ⚠

In case of working with another type of Mutoh ink than described in this manual, refer to the dedicated instruction sheet added to the ink kit.

This printer is designed to use Mutoh Ink cassettes.

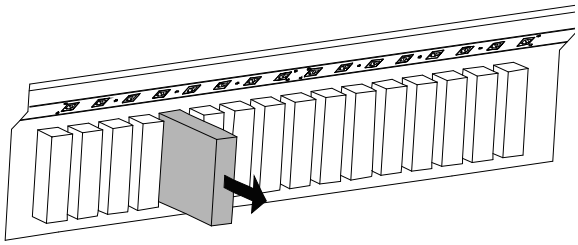
If using other ink cassettes

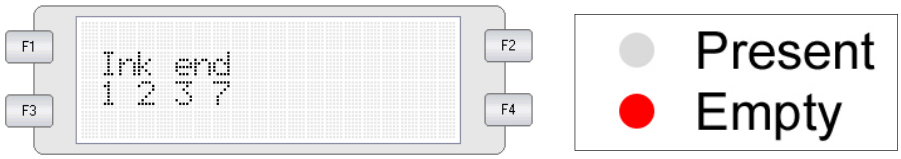
Warranty will be void.
Prints may not reach the expected quality level.
Heads can be damaged.
Printer will not recognize these cassettes when inserting (smart chip)

Please refer to the latest price list to know the available ink and cleaning cassettes for the Spitfire 100 Extreme and for the latest price and part numbers.

3.5.3 Replacement procedure

Step 1 : Remove the empty ink cassette(s) when shown on the display or when the empty lamp on the LED bar is lit.



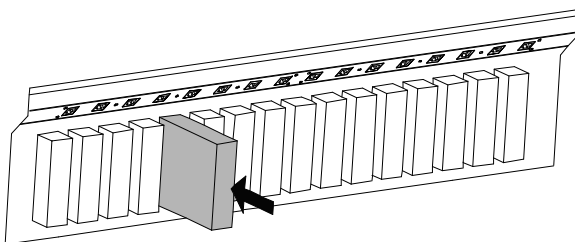


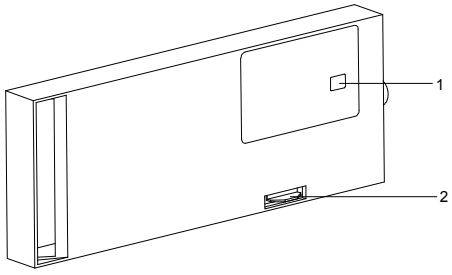
Step 2 : Dispose the used ink cassette by putting it in a plastic bag in accordance with local regulations or laws.

Step 3 : Remove the new ink cassette out of its package.

Step 4 : Insert the cassette in the appropriate slot according to the ink colour configuration label.

Be sure to insert the cassette correctly, with the SmartChip-side (1) first and flag (2) pointing right.





Step 5 : The printer will continue printing.

3.6 REPLACING THE CUTTING BLADE

3.6.1 Replacement time

Replace the cutting blade under the following conditions.

a. Media cannot be cut clearly
b. When the cut edge has scuffing

3.6.2 Replacement procedure

Follow the steps below to replace the cutting blade.

Step 1 : If the printer is powered ON, verify following items:
Printing or other operations are not performed.
Make sure that the display shows the normal status.
The MEDIA SET light goes off.

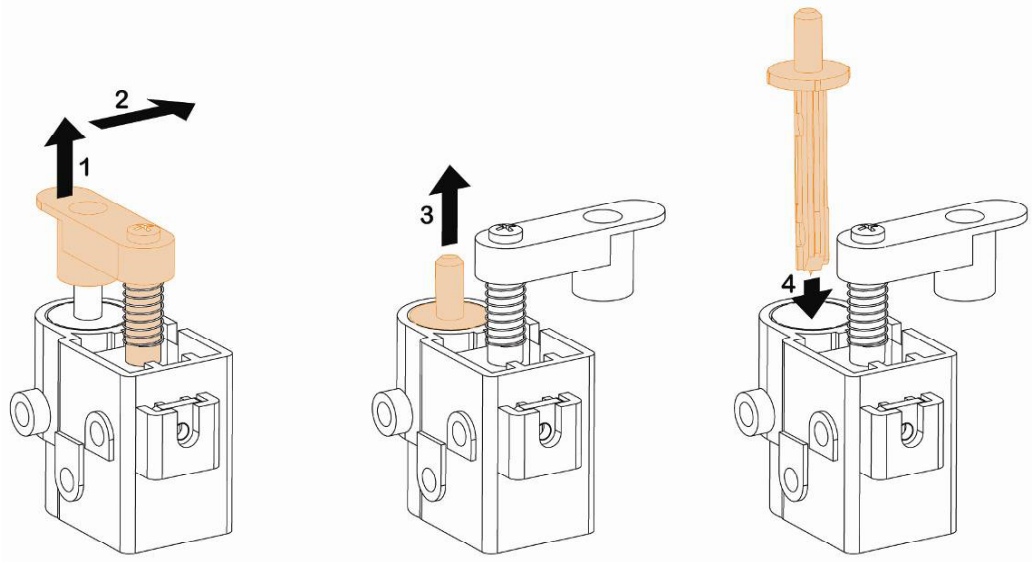
Step 2 : Go to the H. Unlock menu (SetupMenu 5/7) and unlock the head.

Step 3 : Open the front cover.

Step 4 : While pressing the cutting blade holder tab, rotate the cutting blade holder lever in the direction shown on the picture (2).

Step 5 : Take out the cutting blade (3) and insert the new cutter into the media cutting blade holder (4).

Step 6 : While slightly pressing the cutting blade holder tab, return the cutting blade lever to its original position.



Step 7 : Close the front cover.

Step 8 : Press the [ENTER] key.

Step 9 : The carriage returns to its original position and returns to menu 6/7.

Step 10 : Cutting blade replacement has been finished.

3.7 REPLACING THE WASTE BOTTLE

3.7.1 Replacement Time

Replace the waste bottle when the waste bottle is full. This is determined firmware wise.

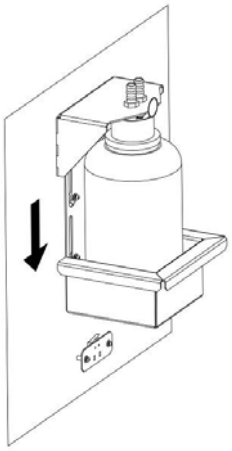
3.7.2 Replacement Procedures

Follow the steps below to replace the waste bottle.

Step 1 : Check the following if the power of the printer is ON.

- Printer is not printing.
- Operation panel is in normal status.
- Media setting light is off.

Step 2 : Lower the waste ink tank tray till it touches the sensor at the bottom.



Step 3 : Remove the waste ink bottle.

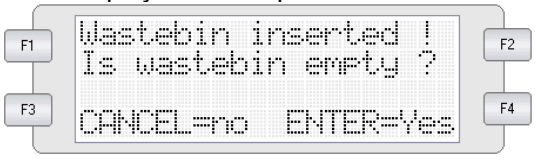
Step 4 : Replace the full one with an empty one (in-the-box) and empty the full one.

⚠ Notes ⚠

Put the used waste bottle in a solvent resistant container and follow the local regulations when disposing.
The counter of the waste bottle will be reset from the moment the tray releases the sensor. So be sure to empty the waste tank, otherwise it will overflow.

Step 5 : Replace the waste ink bottle and guide the waste ink tank tray back to its home position.

Step 6 : Following message will be displayed after replacement



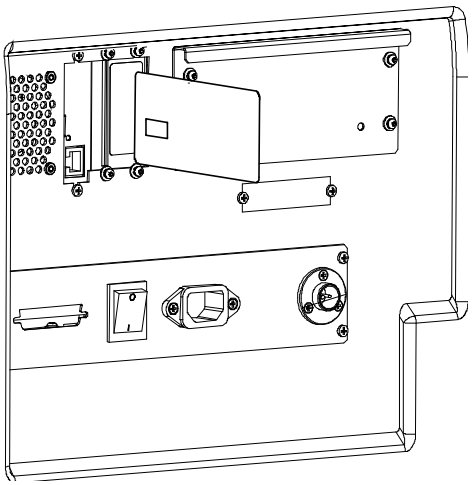
3.8 WORKING WITH MUTOH'S SMARTCHIP MANAGEMENT SYSTEM

3.8.1 *Introduction*

On each ink cassette, a SmartChip is attached. On this SmartChip, ink volume is stored. When printing, the ink volume will be reduced from the SmartChip.

When working with Mutoh's Bulk Ink System, no SmartChips are attached to the cartridges. Therefore, each bulk ink bottle includes a SmartChip with the necessary ink volume.

The SmartChip management system makes it possible to load this ink volume via the SmartChip slot installed at the back of the printer.



With this feature it is also possible to:

review the remaining ink volume

scan the ink cassette slots for ink volume

⚠ Important ⚠

Do not pull any SmartChip cards from ink cassettes to use them in the reader. The ink volume on the SmartChip cards of the cassettes can be transferred to the SmartChip management system by scanning them one by one. Please find in the next coming chapters more info.

3.8.2 Selecting the correct modes

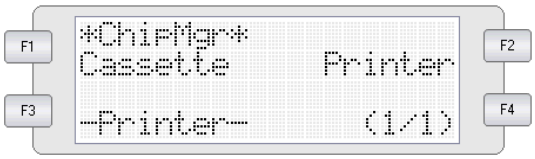
Depending on printing with ink cassettes or with a bulk ink system, the ink volume has to be transferred in a different way. You can choose between printer and cassette mode in the ChipManager menu:

Please follow the steps to switch between the two modes:

Step 1 : Power ON the printer.

Step 2 : Go to InkManager ►ChipMgr and choose "printer" to enable the SM system.

Step 3 :

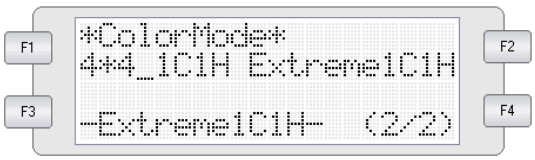


Parameters	Description
Cassette	Use the smart chips on the ink cassettes
Printer	Use the smart chip management system. Recommended when working with a Spitfire Bulk Ink System.

Step 4 : When you have selected cassette mode, you are ready to print, no further settings should be made.

Step 5 : When you have selected printer mode, the colour mode should be set.

Go to SetupMenu 5/7 ► InkManager ► ColorMode



Extreme1C1H (*)	K	K	Y	Y	C	C	M	M	M	M	C	C	Y	Y	K	K
2x4_Symm	K	Y	C	M	M	C	Y	K	Cl	Cl	Cl	Cl	Cl	Cl	Cl	Cl
6LcLm	K	Lm	C	Lc	Cl	M	Cl	Y	Y	Cl	M	Cl	Lc	C	Lm	K
4x4_Symm	K	Y	C	M	M	C	Y	K	K	Y	C	M	M	C	Y	K
4x4_1C1H	For future use only															

K Black
C Cyan
Lc Light Cyan
M Magenta
Lm Light Magenta
Y Yellow

Cl Cleaning

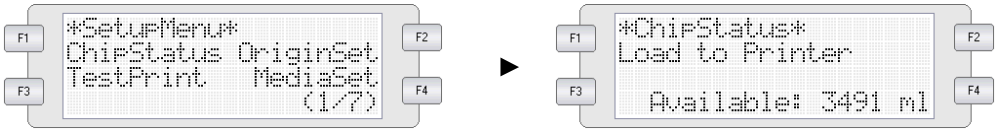
(*) HIGHLY RECOMMENDED BY MUTOH

3.8.3 Transferring ink volume

3.8.3.1 Via the smart chip reader slot

Please follow the instructions below to transfer the ink volume on the SmartChips to the SmartChip Management System.

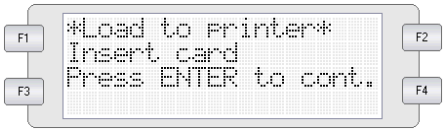
Step 1 : Browse to the ChipStatus menu and press the F1 key.



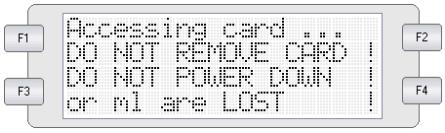
⚠ Notes ⚠

Be sure to be in printer mode, otherwise ChipStatus will be replaced by InkStatus.

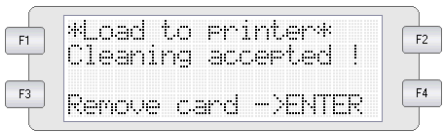
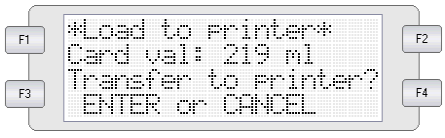
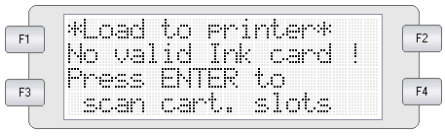
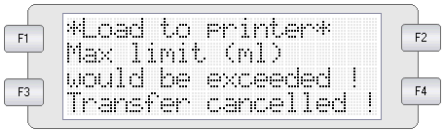
Step 2 : Insert the SmartChip in the reader slot and press the ENTER key.



Step 3 : The system will scan the reader slot.



Step 4 : Perform the correct action based on the displayed message.

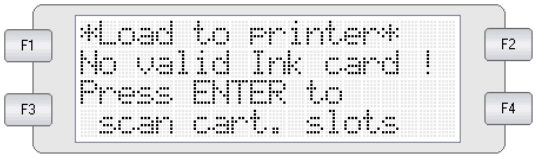
IF…	THEN…
a cleaning card is detected 	Remove the SmartChip card and press ENTER
a valid card is found 	Press ENTER to transfer the ink volume Press CANCEL to quit the operation
no valid card is found 	Remove the SmartChip card. You will be asked if you want to scan the cartridge slots for ink volume. Please refer to the next chapter for all the details.
the total printer chip value exceeds 40 000 ml 	The transfer has been cancelled automatically.

Step 5 : Remove the SmartChip card when the transfer is finished and press the ENTER key afterwards.

Step 6 : The printer returns to the ChipStatus menu.

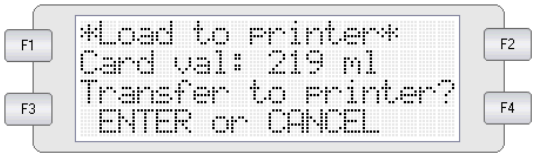
3.8.3.2 Via the Cassette slots of the printer.

When there is no smart chip inserted, or if inserting an invalid SmartChip card, the management system will ask to scan all the cassette slots and transfer the rest ink volume from the SmartChip on the cassette to the management system.



Step 1 : Press the ENTER key to scan all slots.

Step 2 : If ink value is detected on one of the SmartChips, the following message will be displayed. Press the ENTER key to transfer or the CANCEL key to abort.



Step 3 : The management system will scan until it finds a SmartChip with ink volume, repeat this procedure until no ink volume is left.

3.9 SWITCH BETWEEN INK CONFIGURATIONS.

It is possible to switch from between ink configurations. Please follow the procedure below:

⚠ Important ⚠

In case of working with another type of Mutoh ink than described in this manual, refer to the dedicated instruction sheet added to the ink kit.

Step 1 : Remove all cassettes.

Step 2 : Discharge ALL heads for 15 seconds.

Step 3 : Insert Spitfire Cleaning Cassettes.

Step 4 : Charge ALL heads for 3 minutes.

Step 5 : Pull out all cassette

Step 6 : Discharge ALL heads for 15 seconds.

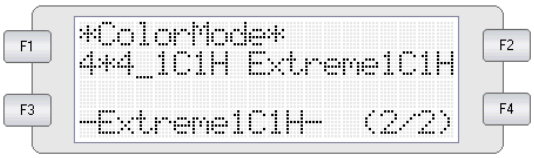
Step 7 : Put back the Spitfire cleaning cassettes.

Step 8 : Charge ALL heads for 3 minutes.

Step 9 : Remove all cassettes.

Step 10 : Discharge ALL heads for 15 seconds.

Step 11 : Use the arrow keys to change the ColorMode to 2x6 or 4x4 depending on the switch. → SetupMenu 5/7 → InkManager → ColorMode



Step 12 : Insert *Spitfire Mild Solvent ink Cassettes,* and Stabilizer liquid in case of 2x6, according to the ink configuration label

Step 13 : Charge ALL heads for 2 minutes.

Step 14 : An Authorized Mutoh Technician has to shift or unshift head block 5 to 8.

Shifted heads are needed when printing in 4x4 mode.
Unshifted heads (in 1 line) are needed when printing in 2x6 mode.

Step 15 : Perform a nozzle check and clean if necessary until all nozzles are present.

⚠ Notes ⚠

Please refer to "Charge/Discharge"-chapter for more details about these functions.

3.10 UNATTENDED PRINTING OR LEAVE PRINTER IDLE DURING NIGHT

3.10.1 Unattended Printing.

It is not recommended to leave the printer unattended. Some things should be checked frequently:

Is the media still going straight through the printer?

Aren't there any head crashes or other media problems?

What if the printer stops printing for electronic, mechanic or firmware reasons?

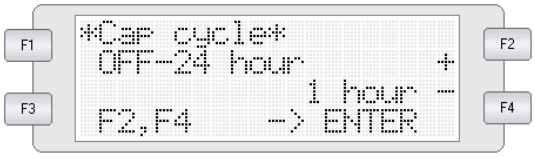
To prevent production loss, it is recommended to control the above on frequent base. In some cases, a head crash can occur, which means that the printer stops printing and that the head will be uncapped. This could damage the printer irrevocably.

We advise installing a webcam when sending a print from another place from where the printer stands and to set the following features:

Step 1 : Before you send your last job to the printer be sure to

a. Perform a tubing flush with cleaning (Please refer to "Daily Maintenance")
Clean the wipers with polyknit wipers and Solvent cleaning liquid.

b. Set your CapCycle to 1 hour.



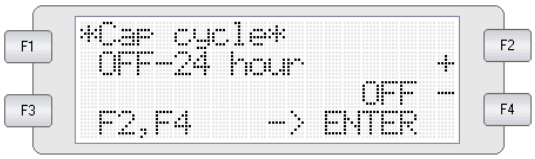
Step 2 : When you arrive in the morning follow this procedure

a. Perform a tubing flush with cleaning (Please refer to "Daily Maintenance")

b. Perform a nozzle check

c. Depending on the amount of lost nozzles, perform a normal or powerful cleaning until all nozzles are back.

d. Switch OFF the CapCycle feature.

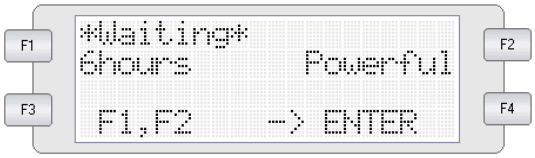


3.10.2 Leave your printer IDLE during night.

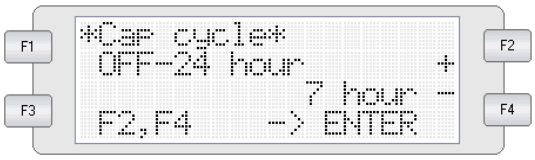
In case you want to leave your printer IDLE during the night for some reason, a special procedure should be followed.

Step 1 : Before leaving the office:

a. Set your AutoClean on 6 hours and powerful. This will perform a powerful cleaning every 6 hours.



b. Set your CapCycle to 7 hours. An hour after the cleaning, a tubing flush will be performed.



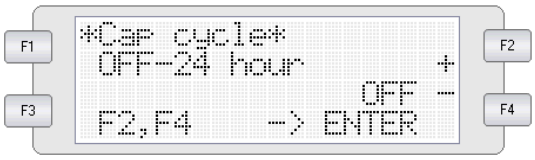
Step 2 : When arriving in the office, be sure to:

a. Perform a tubing flush with cleaning (Please refer to "Daily Maintenance")

b. Perform a nozzle check

c. Depending on the amount of lost nozzles, perform a normal or powerful cleaning until all nozzles are back.

d. Switch off the CapCycle and AutoClean feature.



3.11 LONGSTORE

⚠ Important ⚠

In case of working with another type of Mutoh ink than described in this manual, refer to the dedicated instruction sheet added to the ink kit.

When transporting your printer or leaving your printer unattended for five days or more, for example on holidays, it is highly recommended to LongStore the printer in order not to damage the heads and/or the complete ink system.

Please note that there are LongStore kits available:

For Mutoh Mild Solvent ink configurations KY-80240

N°	Description	Quantity
1	Mutoh Mild Solvent Cleaning Liquid	16
2	Mutoh Mild Solvent ink Black Cyan Magenta Yellow	 4 4 4 4

For Mutoh Mild Solvent Plus ink configurations KY-81740

N°	Description	Quantity
1	Mutoh Mild Solvent Cleaning Liquid	16
2	Mutoh Mild Solvent Plus ink Black Cyan Magenta Yellow	 4 4 4 4

3.11.1 Procedure to LongStore

Be sure to …

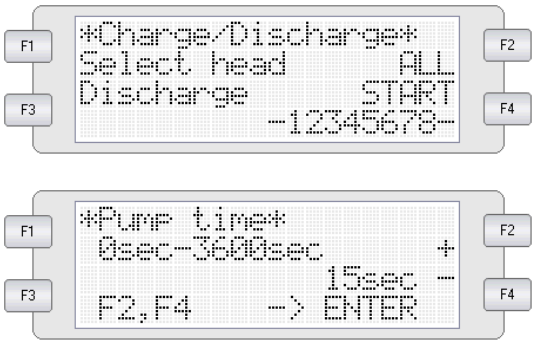
… perform the weekly maintenance
… perform the daily maintenance
… moisten the caps

before starting the LongStore procedure

Step 1 : Remove all Spitfire Mild Solvent cassettes.

Step 2 : Manually start a discharge cycle for 15 seconds.

- Go to the Ink Manager Menu > Charge/Discharge > set the following parameters in this order.



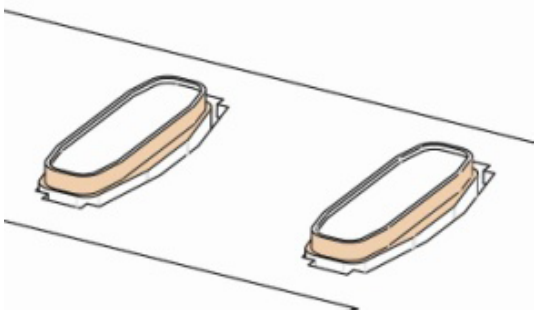
Handle following order
Select ALL with [F2] key
Press F1 to select ALL heads
Select Discharge with [F3] key
Press the F4 key to go to next menu
Set 15 seconds with [F2]-[F4] and press ENTER

Step 3 : Insert 16 Spitfire Mild Solvent cleaning cassettes and manually start a charge of 2 minutes on all heads.

Step 4 : Please perform a nozzle check to be sure all tubings are filled with cleaning liquid before shipping.

⚠ Notes ⚠

Ink rests in the nozzle check could be caused by an ink cycle which is not completely airtight. This could be easily solved by moistening the sides of the caps with Mutoh Solvent Cleaning.



Moistening the caps can be done by unlocking the head with the TubingFlush menu.

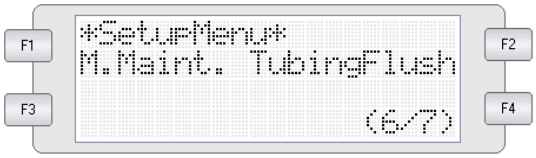
After moistening the caps charge again for 2 minutes.

After charging, perform a NozzleCheck to verify whether all tubings have been filled with cleaning liquid.

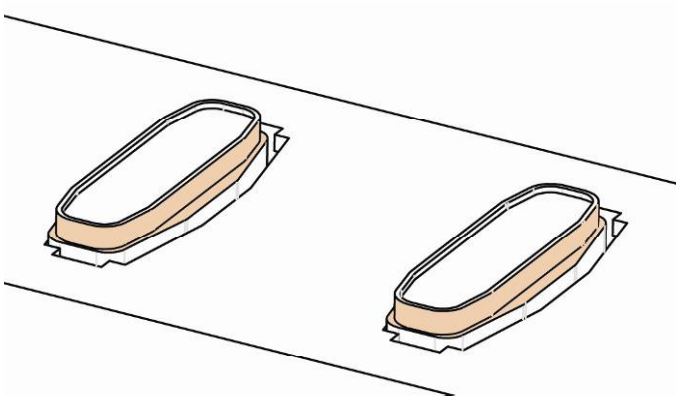
Please refer to "Handling the printer" ► "Menu 5/7" ► "Charge/Discharge Menu" for more details on how to charge and discharge.

3.11.2 Starting up after a LongStore.

Step 1 : Go to menu 6/7 and choose "TubingFlush".



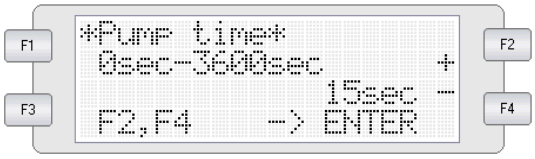
Step 2 : Moist the edge of the caps with Solvent Cleaning Liquid to guarantee that the ink cycle is airtight.



Step 3 : Press the ENTER key when finished.

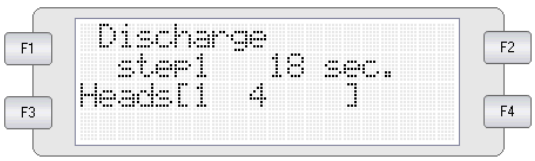
Step 4 : Remove the Spitfire Mild Solvent Cleaning Liquid cassettes and manually start a discharge cycle for 15 seconds.

- Go to the Ink Manager Menu > Charge/Discharge > set the following parameters in this order.

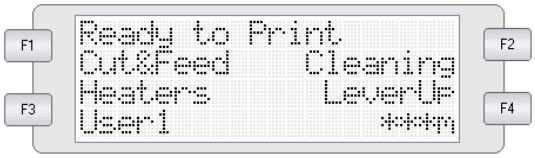


Handle following order
Select ALL with [F2] key
Press F1 to select ALL heads
Select Discharge with [F3] key
Press the F4 key to go to next menu
Set 15 seconds with [F2] – [F4] and press ENTER

Step 5 : A timer will start on the display.

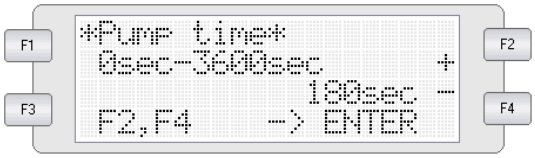


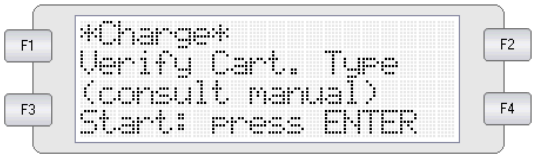
- When finished, the printer will go to its status screen automatically.



Step 6 : Insert *Spitfire Mild Solvent (Plus) ink Cassettes,* and Stabilizer liquid in case of 2x6, according to the ink configuration label and charge for 3 minutes

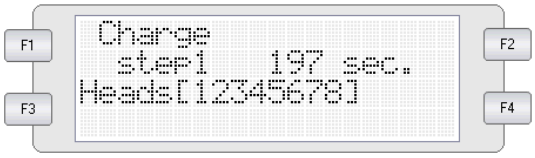
- Go to the Ink Manager Menu > Charge/Discharge, set the following parameters in this order.



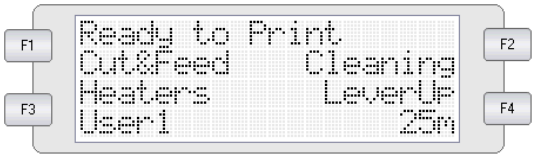


Handle following order
Select ALL with [F2] key
Press F1 to select ALL heads
Select Charge with [F3] key
Press the F4 key to START cycle
Set 180 seconds with [F2] – [F4] and press ENTER

Step 7 : A timer will start on the display.



- When finished, the printer will go to its status screen automatically.



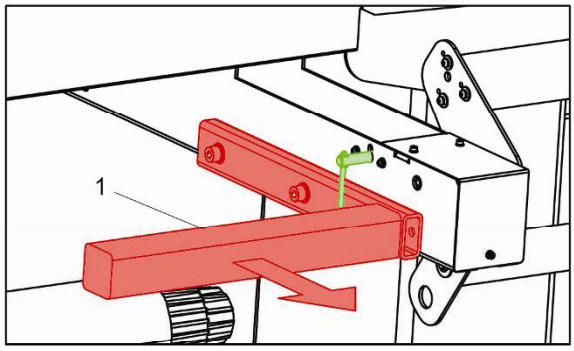
Step 8 : Perform a NozzleCheck to be sure all nozzles are present.

3.12 TRANSFERRING THE PRINTER

3.12.1 *Hints, tips and warnings*

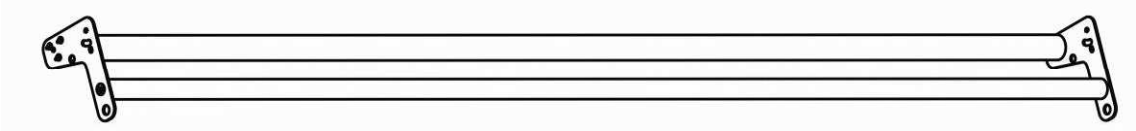
When transporting the printer to its final location pay attention to the following:

Only use the strengthening arms (1) to move the printer.

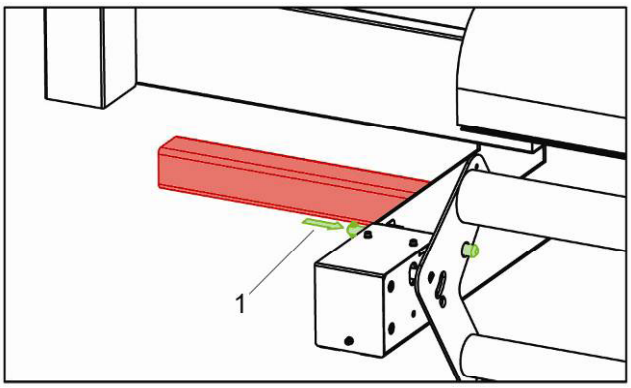


Do NOT use a forklift or other lifting tools to avoid distortion of the machine.

Do NOT pull the swingbars to move the printer. These are very fragile and adjusted.



Lock the swingbars with the positioning pen (1)



3.12.2 Transferring the printer

(1) Before the transfer

Follow the steps below to transfer the printer.

Step 1 : Make sure the printer and winding system are switched OFF.

Step 2 : Make sure the head is in the right edge position (capping position).

Step 3 : Disconnect the power cables and all other cables.

Step 4 : Higher all levelling feet.

Step 5 : Install the 2 transportation arms.

Step 6 : Transfer the printer.

⚠ Notes ⚠

The caster attached to the stand has been designed for transferring the printer during short distances.

(2) After the transfer

Step 1 : Follow the steps below to prepare the printer to be used after the transfer.

Step 2 : Make sure that you place the printer on an adequate place

Step 3 : Connect the power cable and other cables.

Step 4 : Perform a nozzle check to check if the printer head has clogged.

Step 5 : Perform a fine adjustment of image quality.

Step 6 : Check if the winding system is still well aligned.

⚠ Caution ⚠

Before transporting the printer, contact your local Authorized Mutoh Dealer.

4 PERIODICAL MAINTENANCE

4.1 Periodical Services done by end user 60
4.2 Cleaning 61
4.2.1 Cleaning the outer case 61
4.3 Cleaning the wipers 61
4.3.1 Frequency 61
4.4 Flushing the caps 62
4.4.1 Frequency 62
4.5 Cleaning the edges of the caps 64
4.5.1 Frequency 64
4.6 Clean around bottom of the head 65
4.6.1 Frequency 65
4.7 Replace the spitting box sponge 66
4.7.1 Frequency 66
4.8 Replacing the wipers 67
4.8.1 Frequency 67
4.9 Replacing the pump tubings 68
4.9.1 Frequency 68
4.10 Replacing the absorbent behind the maintenance station. 69
4.10.1 Frequency 69
4.11 Changing the absorbent under the waste bottle 70
4.11.1 Frequency 70
4.12 Changing the absorbent in the manual cleaning station 71
4.12.1 Frequency 71
4.13 Head cleaning 72
4.14 Service done by authorised Mutoh technician 74

4.1 PERIODICAL SERVICES DONE BY END USER

⚠ Important ⚠

In case of working with other inks than described in this manual, refer to the instruction sheet enclosed with the ink to know the periodical maintenance and its frequency.

Be sure to perform your maintenance as shown below. A good maintenance of the Spitfire is very important to obtain Mutoh quality and to avoid some parts (even heads) get broken.
Please find below more details about the daily, weekly and monthly maintenance and also about how to replace consumables such as ink cassettes, cutting blade…

For some maintenance, an authorized Mutoh Technician should be contacted as described in the next chapter.

N°	Action	Frequency	
		When using Mild Solvent ink	When using Eco-Solvent Ultra ink
1	Clean wipers	daily	Weekly
2	Flush caps in maintenance station		
3	Clean the edges of the caps in maintenance station		
4	Clean the area around the caps	weekly	
5	Clean around bottom of the heads		
6	Powerful cleaning of ALL heads		
7	Replace spitting box sponge	biweekly	Monthly
8	Change the wipers	monthly	
9	Change pump tubing		
10	Change absorbent behind maintenance station		every 6 months
11	Change absorbent under waste bottle	every 3 months	every 3 months
12	Change absorbent in manual cleaning station		

⚠ Notes ⚠

Above maintenance cycle is based on use: 8 hours / day, 5 days / week and 44 weeks / year.
If machine is used more, maintenance periods will come earlier

⚠ Notes ⚠

The accessory kit, delivered with the printer, contains items to perform the periodical maintenance (except for cleaning liquid)
If running out of the necessary maintenance equipment, a user maintenance kit can be ordered. This kit contains all items to perform the periodical maintenance.
Depending on the ink you are currently using, order the correct cleaning liquid.

4.2 CLEANING

⚠ Important ⚠

Do not insert or drop metal or inflammable objects into openings, such as ventilation outlets. Doing so may result in electrical shock and fire.
Stop using your printer if a liquid has been spilled into it. This may cause electrical shock or fire. Power the printer OFF as soon as possible, unplug the power cord and then contact your local MUTOH dealer.

⚠ Caution ⚠

Be sure to power OFF the printer and unplug the power cable before cleaning the printer.
Do not use thinner, benzene, alcohol or other active agents. Doing so may result in damage or paint peeling from the casing.
Be careful not to spill water inside the printer. Doing so may result in a short circuit.

4.2.1 Cleaning the outer case

(1) Cleaning frequency
Clean once a month.

(2) Cleaning procedure
Remove dust or smudges on the outer case with a soft cloth.

4.3 CLEANING THE WIPERS

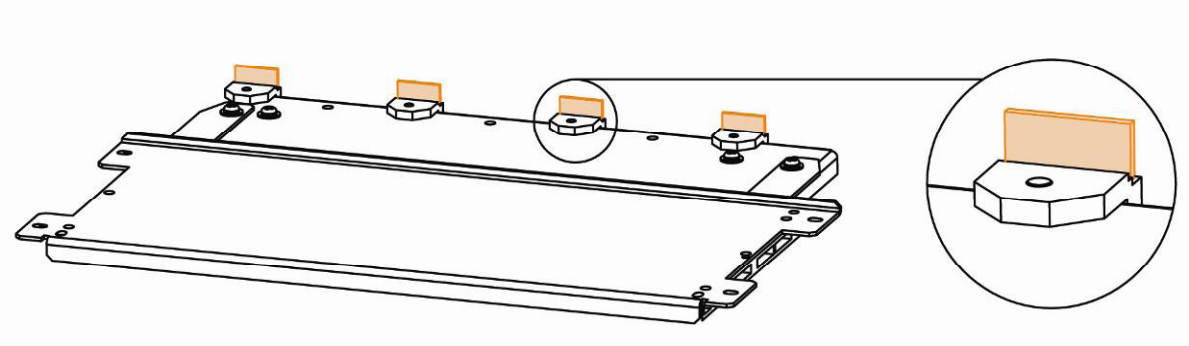
4.3.1 Frequency

When working with Mild Solvent ink:
- Daily

When working with Eco-Solvent Ultra ink
- Weekly

Step 1 : Power ON the printer and go to the "M.Maint.-Menu". The carriage will move to the manual cleaning area on the left of the machine.

Step 2 : Open the front cover and clean the wipers with a polyknit wiper and use some appropriate cleaning liquid to remove drops of ink. Be sure to wear gloves.



1	Gloves
2	Wipers
3	Polyknit wiper

Step 3 : Close the front cover and strike the ENTER key to let the carriage move back to its home position

4.4 FLUSHING THE CAPS

4.4.1 Frequency

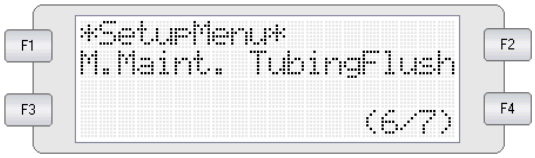
When working with Mild Solvent ink:

- Daily

When working with Eco-Solvent Ultra ink

- Weekly

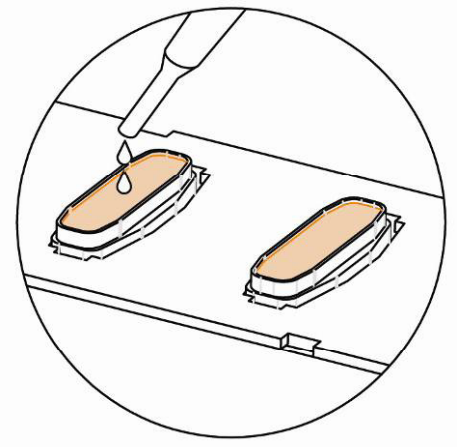
Step 1 : Perform a tubing flush (F2 in Menu 6/7)



Step 2 : Open the front cover when message below is displayed.

Step 3 : Use a pipette to flush the caps with an appropriate cleaning liquid.

Step 4 : Flush the caps until the colour of the mousse in the cap does not change anymore. Be sure to wet the edges of the caps also with Solvent cleaning liquid.



Step 5 : To stop the tubing flush cycle press enter.

Step 6 : Check if ink is spoiled on the edges of the caps. If so, clean the edges with the cleaning swab and if necessary use some Solvent cleaning liquid.

Step 7 : Close the front cover.

4.5 CLEANING THE EDGES OF THE CAPS

4.5.1 Frequency

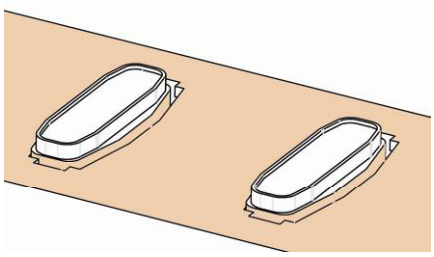
When working with Mild Solvent ink:
- Daily

When working with Eco-Solvent Ultra ink
- Weekly

Step 1 : Power ON the printer and perform a powerful cleaning of ALL heads.

Step 2 : Go to the "M.Maint.-Menu". The carriage will move to the manual cleaning area on the left of the machine.

Step 3 : Open the front cover and clean the area around the caps with a polyknit wiper. If noticing ink, dust or something else, clean it immediately so it can not influence the print quality.



4.6 CLEAN AROUND BOTTOM OF THE HEAD

4.6.1 Frequency

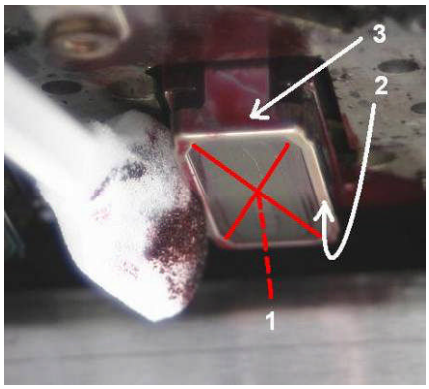
When working with Mild Solvent ink:

- Weekly

When working with Eco-Solvent Ultra ink

- Weekly

Step 1 : Clean the edges of the heads with a cleaning swab wetted by Solvent cleaning liquid. Make sure not to touch nor clean the nozzle plate; this would lead to poorer print quality.



1	Gloves
2	Cleaning swabs
3	Heads
4	Mirror

1	Nozzle plate (DO NOT TOUCH)
2	Border of head
3	Side of head

Step 2 : Close the front cover and strike the ENTER key when done. The carriage will automatically go to its home position.

Step 3 : Now perform the daily maintenance.

4.7 REPLACE THE SPITTING BOX SPONGE

4.7.1 Frequency

When working with Mild Solvent ink:

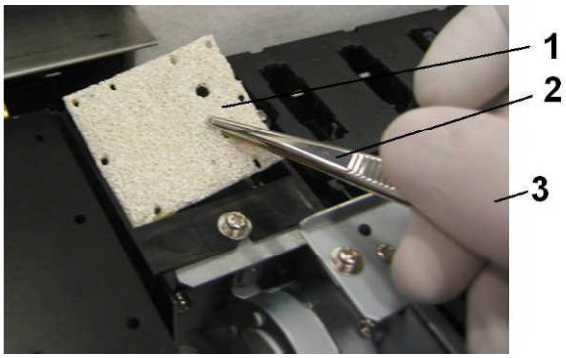
- Every two weeks

When working with Eco-Solvent Ultra ink

- Monthly

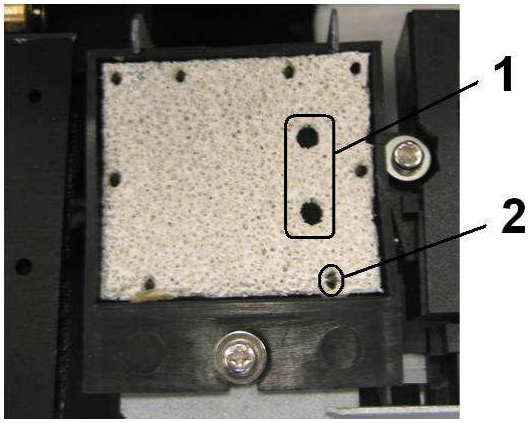
Step 1 : Power ON the printer and go to the "M.Maint.-Menu". The carriage will move to the manual cleaning area on the left of the machine.

Step 2 : Remove the old absorbents with tweezers.



1	Sponge
2	Tweezers
3	Gloves

Step 3 : Install the new absorbents in the flushing box. Make sure that the 2 holes are on the right side of the flushing box and that the pins of the black box are in the holes of the absorbent.



1	Two holes
2	Pin of black box

4.8 REPLACING THE WIPERS

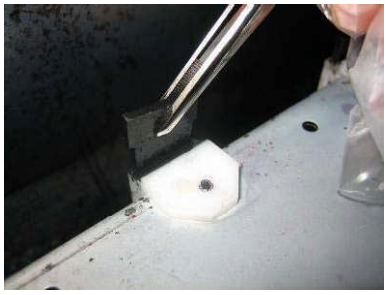
4.8.1 *Frequency*

When working with Mild Solvent ink:
- Monthly

When working with Eco-Solvent Ultra ink
- Monthly

Step 1 : Power ON the printer and go to the "M.Maint.-Menu". The carriage will move to the manual cleaning area on the left of the machine.

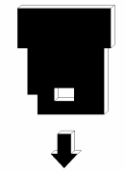
Step 2 : Remove the old wipers with a pair of tweezers



Step 3 : Before inserting a new wiper, moisten the wiper with Solvent cleaning liquid.

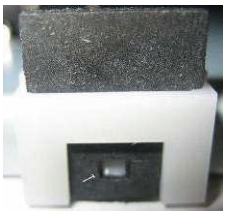
Step 4 : Insert the moistened wiper with a pair of tweezers.

Be sure to insert the wiper correctly as shown below:



When standing in front of the machine.

Be sure that the wiper clicks in the wiper holder!



⚠ Notes ⚠

Do not touch the wipers with your bare hands to avoid fat or dirt get in contact with the wipers and automatically the nozzle plate. Use a pair of tweezers to avoid this. Clean wipers with appropriate cleaning liquid in case of dirt

4.9 REPLACING THE PUMP TUBINGS.

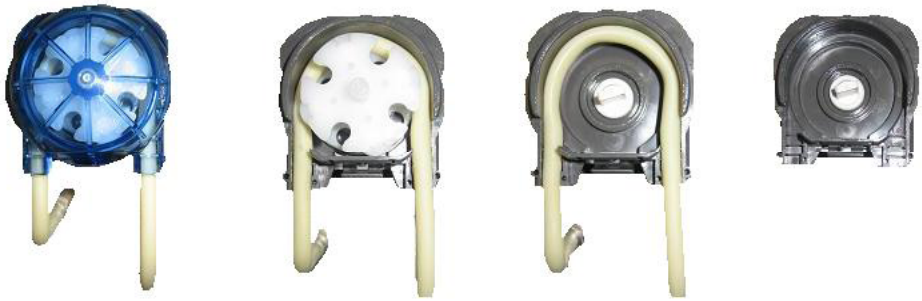
4.9.1 Frequency

When working with Mild Solvent ink:
- Monthly

When working with Eco-Solvent Ultra ink
- Monthly

Step 1 : Before replacing the tubings, be sure to perform a tubing flush and power OFF the machine.

Step 2 : Cover the flour with a towel because it is possible that some fluid leaks out of the nipples.
Remove the cap from the pump and remove tubing.



Step 3 : Replace the old tubing with the new one and reinstall the blue cap.
When replacing the tubings, put the tubing 3 to 5 times on the nipples.

⚠ Notes ⚠

Be sure that the tubings are not wrinkled.

4.10 REPLACING THE ABSORBENT BEHIND THE MAINTENANCE STATION.

4.10.1 Frequency

When working with Mild Solvent ink:

- Monthly

When working with Eco-Solvent Ultra ink

- Every 6 months

Step 1 : Power ON the printer and go to the "M.Maint.-Menu". The carriage will move to the manual cleaning area on the left of the machine.

Step 2 : Put on some gloves and tilt out the old absorbent and replace it by a new one.

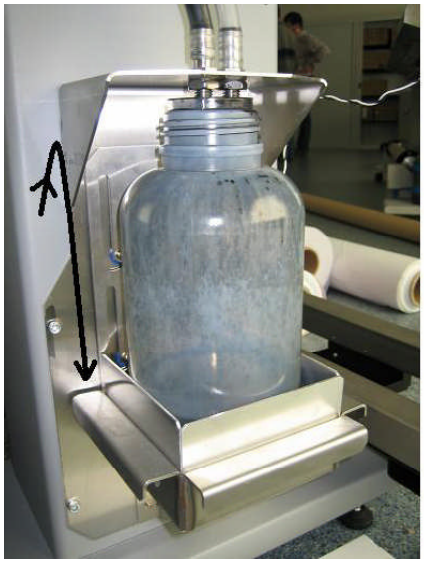
4.11 CHANGING THE ABSORBENT UNDER THE WASTE BOTTLE

4.11.1 Frequency

When working with Mild Solvent ink:
- Every 3 months

When working with Eco-Solvent Ultra ink
- Every 3 months

Step 1 : Lower the waste bottle holder and remove waste bottle.



Step 2 : Replace the sponge under the waste bottle.

Step 3 : Raise the waste bottle holder.

4.12 CHANGING THE ABSORBENT IN THE MANUAL CLEANING STATION

4.12.1 Frequency

When working with Mild Solvent ink:

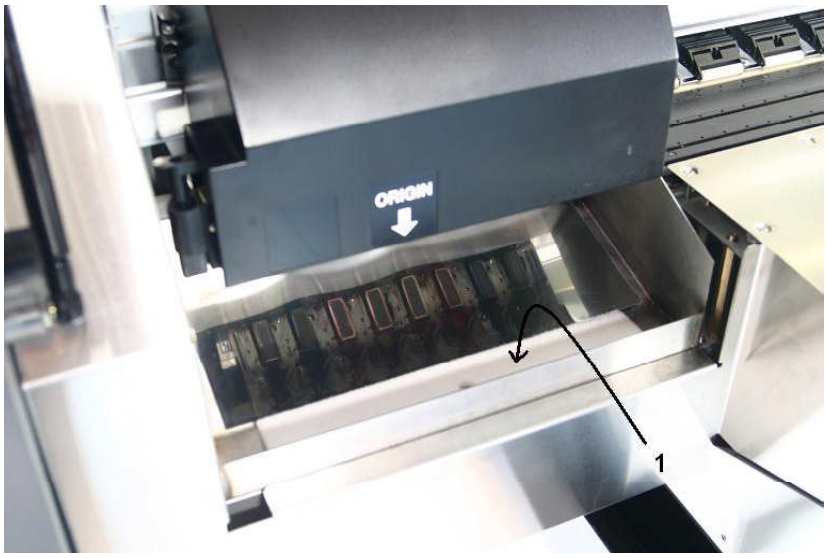
- Every 3 months

When working with Eco-Solvent Ultra ink

- Every 3 months

Step 1 : Open the front cover.

Step 2 : Replace the sponge.



N°	Description
1	Absorbent

Step 3 : Close the front cover.

4.13 HEAD CLEANING

If printouts become faint or partially missed, perform head cleaning to clean the surface of the head and the nozzles. Follow the steps below to perform head cleaning.

⚠ Notes ⚠

Remove media before performing head cleaning.
If you perform head cleaning with media installed, the head may contact the media.

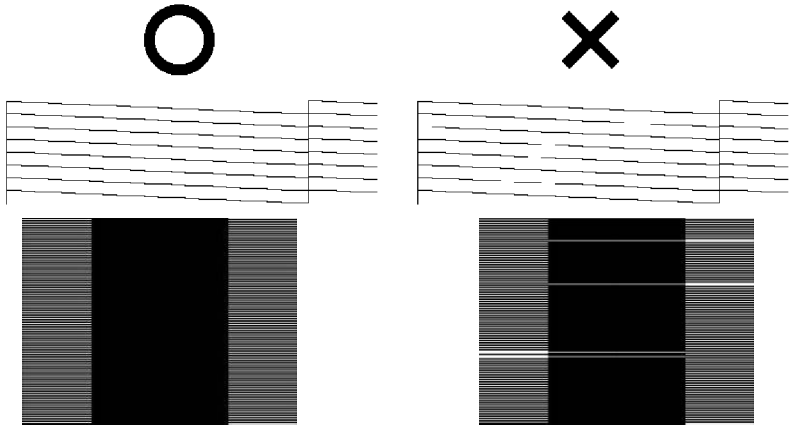
Step 1 : Make sure that the printer is in its normal status.

⚠ Caution ⚠

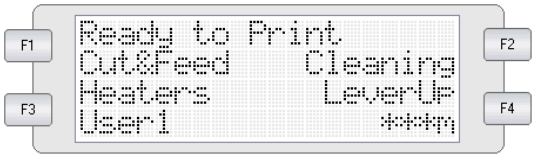
Be sure not to pinch your fingers while opening and closing the front cover.

Step 2 : Refer to "TestPrinting" to perform nozzle check printing.

Step 3 : Check if the print head, referring to the diagram below.
Make use of the blue light to check the yellow nozzles.



Step 4 : Check if the printer is in the normal status.



Step 5 : Press the [F2] key.

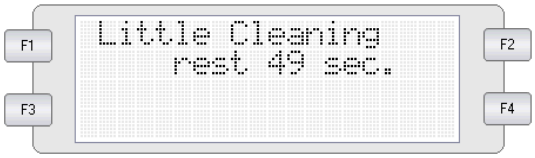
➢ The printer enters the cleaning menu.

F1	To select head
F2	To choose which head should be cleaned (ALL, head 1, 2, 3, 4, 5, 6, 7 or 8)
F3	Little, normal or a powerful cleaning?
- …….-	Selected heads

Step 6 : Press the [ENTER] key to start the head cleaning.

⚠ Notes ⚠

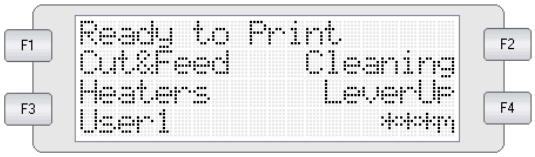
If the [Cancel] key has been pressed instead of the [ENTER] key after changing the parameters, the printer returns to the normal status without performing a head cleaning.



Step 7 : When the head cleaning has been completed, the printer returns to the normal status.

⚠ Notes ⚠

We advise to let the printer rest for 5-10 minutes after a head cleaning procedure. During that time, the Spitfire ink comes to a fully stabilized condition, improving print quality considerably.



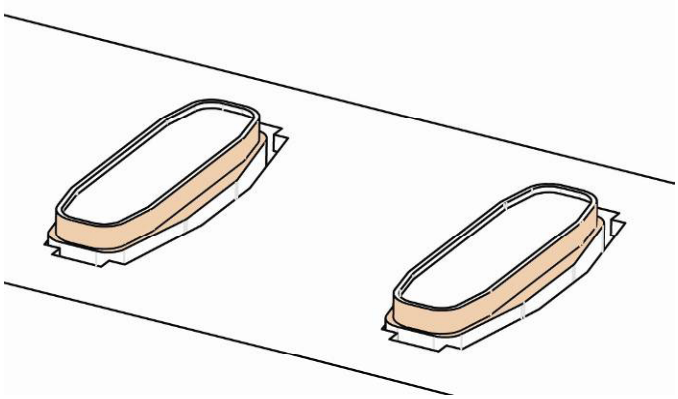
Step 8 : Perform a nozzle check again and check the print head.

⚠ Notes ⚠

There is also a possibility to perform a cleaning while printing. Please refer to chapter "Operating panel during printing".

⚠ Notes ⚠

When there are still some missing nozzles after some cleanings, it could be possible that the ink cycle is not completely airtight. To solve this, moist the sides of the caps and perform a new cleaning.



Moistening the caps can be done by unlocking the head with the TubingFlush menu.

4.14 SERVICE DONE BY AUTHORISED MUTOH TECHNICIAN

This section describes the periodical services which should ONLY be done by an Authorised Mutoh Technician.

Perform periodical inspections according to the table below.

N°	Action	Frequency
13	Change absorbent in maintenance station	6 monthly
14	Change dampers	
15	Change waste tubing from collector > waste bottle	
16	Change spitting box + tube + L connection	
17	Apply grease on head up-down cams	
18	Apply grease on Y-motor belt	
19	Apply grease on roller path carriage	
20	Apply grease on capping station cams+ gears	
21	Change cap assembly maintenance station	After 6 months
22	Change maintenance station	Yearly
23	Change wiper arm assembly and wipers	

⚠ Notes ⚠

All cleaning in "Ink areas" must be done with Mutoh solvent cleaning solution.
Above maintenance cycle is based on use:
8 hours / day, 5 days / week, 44 weeks / year.
If machine is used more, maintenance periods will come earlier.
Please refer to the latest spare part price list for the part numbers of the maintenance kits.

5 PREPARTIONS BEFORE PRINTING

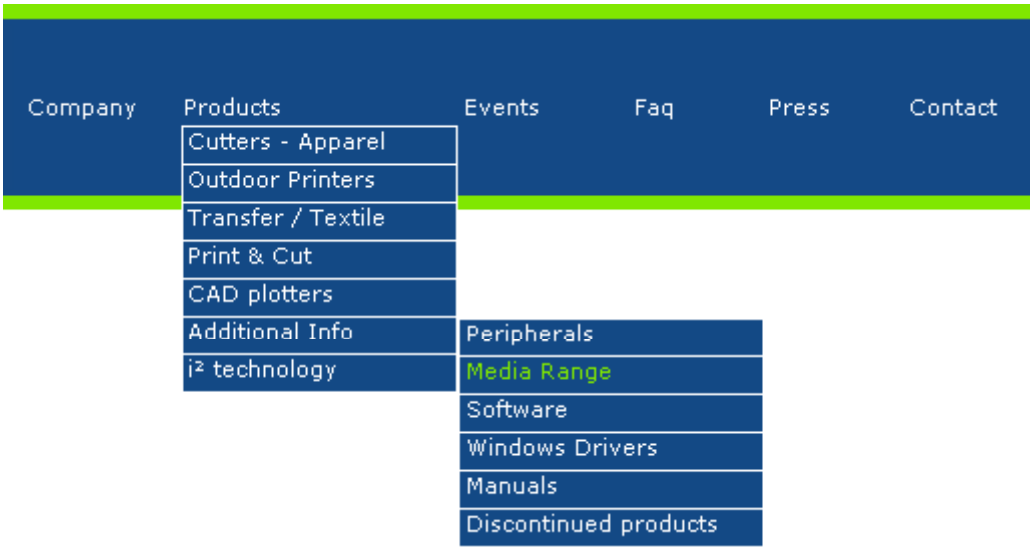
5.1 Using media 76
5.1.1 Media range 76
5.1.2 Cautions on handling media 77
5.1.3 Precaution on storing media 77
5.1.4 The printing area 78
5.2 Testprinting 79
5.2.1 Setup List 80
5.2.2 NozzleCheck 81
5.2.3 Alignment 82
5.2.4 Colour palette 83
5.2.5 Maintenance record 84
5.2.6 Distance adjustment check pattern 84
5.3 Set the correct distance adjust (step) 85
5.3.1 Basics about the step 85
5.3.2 How to determine and change the step 86
5.3.3 How to change the step on the fly. 88
5.4 Printing flow 89

5.1 USING MEDIA

This section describes details on available media for the printer.

5.1.1 Media range

Please refer to Mutoh's website (www.mutoh.eu or www.mutoh.be) for the media compatibility lists for all our products.



For a FULL overview of today's Mutoh Media Range, in which you will find not only order codes, media type, basic description, width and length, but also compatibility of each individual media type with the different Mutoh inks/printers, click here: http://www.mutoh.be/01/MyDocuments/Mutoh_Media_Range.xls.

For further specifications of Mutoh media and media compatibility of leading media manufacturers, please refer to the topics below:

Mutoh's genuine media - specification sheets
Media compatibility

For media, Mutoh has a twofold approach. In the first place, Mutoh is permanently in contact with the leading media manufacturers to define and fine-tune their media in combination with the Mutoh printers.

Secondly, for the first-time users or users who do not want to go through the hassle of searching, testing and profiling media, Mutoh provides an own range of specially developed media for the Mutoh printers. As a result of Mutoh's in-house extensive media test program, there is media targeted at outdoor applications, media aimed at indoor applications where long-term indoor lifetime expectancy of the output is required and media specially designed for making colourful banners.

Free of charge, Mutoh provides you ICC profiles targeted for use with the printer's ink and media range. These free of charge ICC profiles are at all times accessible under each product page.

5.1.2 Cautions on handling media

When you handle media, please pay attention to the following:

Use recommended media in an appropriate environment. Following are the appropriate temperature and humidity ranges for printing.

	Temperature	Humidity
Recommended working environment	20-30°C	40% to 65%
Rate of change	Within 2°C per hour	Within 5% per hour

Do not use creased, damaged, torn, curled, or wrapped media.

Temperature changes will influence the size of media that is used. Before using sheet media, place the sheet in the working environment to have it match to the temperature of the working area.

Printing before the media has been able to accommodate to the printing environment may cause media jams due to slippage or creases. This also adversely affects the quality of printing.

Media has a printable side and a non-printable side. If you print on a not printable side, blurring or slight touching may occur.

Do not touch the printable side of media. Moisture or oil from hands affects the printing quality.

Do not leave the printer for a long time with media loaded. The media may curl, resulting in misalignment, media jams, or decreased printing quality. In particular, avoid this in winter, dry seasons, or during final printing.

Do not throw away the box or wrapping bag for storing media.

5.1.3 Precaution on storing media

When storing media, pay attention to the following:

Do not store media in high temperatures, high humidity, or direct sunlight.

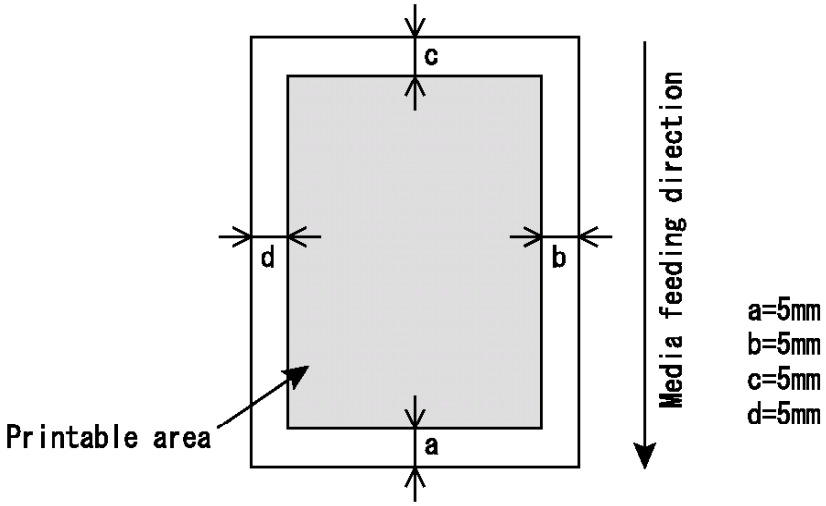
Store sheet media in the original bag after unpacking.

Unused roll media must be removed from the scroller, rewound tightly, and stored in the original wrapping bag and the box.

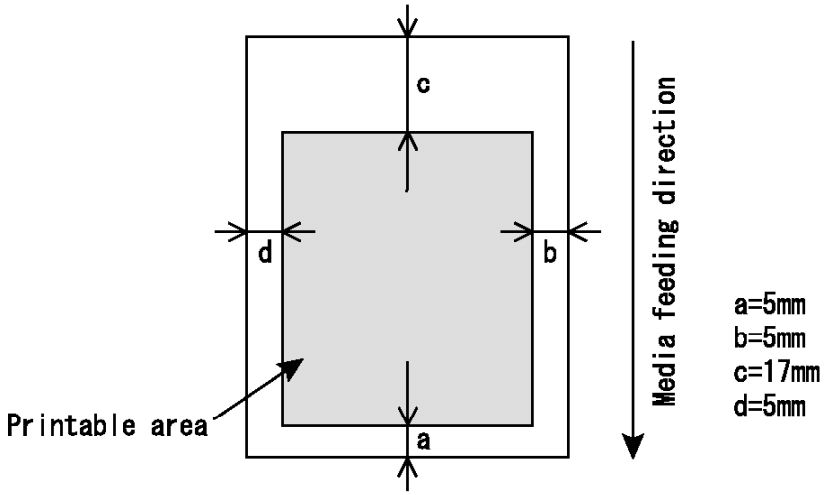
Do not wet media.

5.1.4 The printing area

(1) Roll media



(2) Sheet media



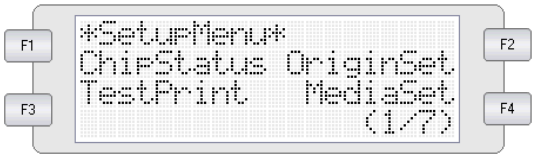
5.2 TESTPRINTING

Follow the steps below to do a test print and confirm if your printer operates correctly.

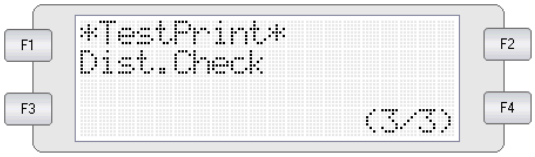
Step 1 : Switch the power ON and load the media.

Step 2 : Verify your printer is in normal status.

Step 3 : Press either the [MENU ▲] key or [MENU ▼] key.
- ➢ The setup menu is displayed.



Step 4 : Press the [F3] key.
- ➢ "TestPrint: SetupPrint" is displayed on the LCD.



Step 5 : Select an item and press the appropriate key.

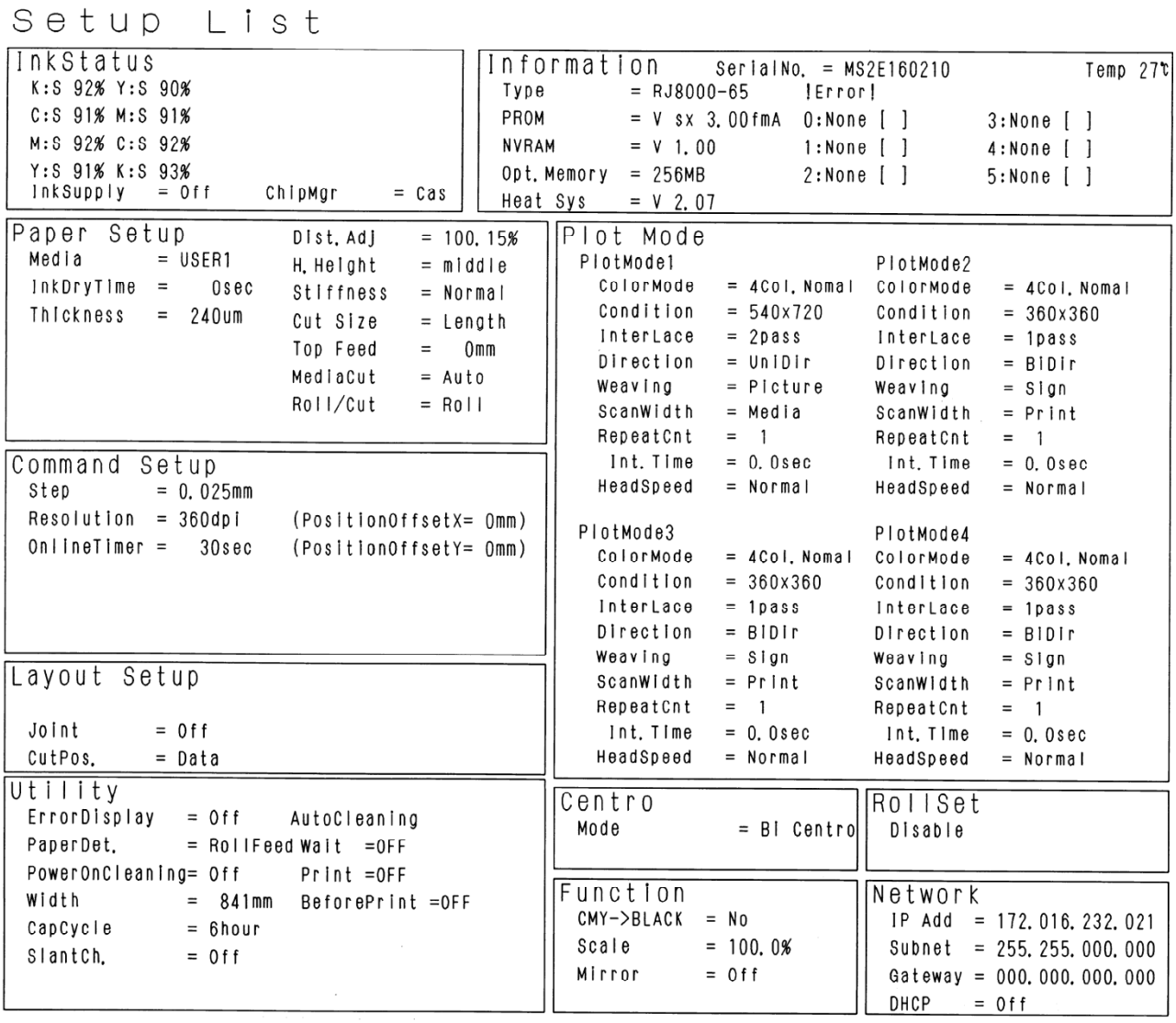
Setup items	**Key name**	**Parameters**	**Descriptions**
Test Print (1/3)	F1	Setup	Print a setup list
	F2	Nozzle Check	Print a NozzleCheck
	F3	Adj. Uni-D	Print a Uni-Directional adjustment pattern
	F4	Adj. Bi-D	Print a Bi-Directional adjustment pattern
Test Print (2/3)	F1	Bi-D400	Print a Bi-Directional adjustment pattern at 400 cps
	F2	Bi-D480	Print a Bi-Directional adjustment pattern at 480 cps
	F3	Palette	Print a colour palette
	F4	Maintenance	Print a maintenance record
Test Print (3/3)	F1	Dist. Check	Print a distance adjustment pattern

Step 6 : Print the information on the selected item.

Step 7 : After printing, the printer returns to the normal status.

5.2.1 Setup List

Use this function to check the current status of the printer.



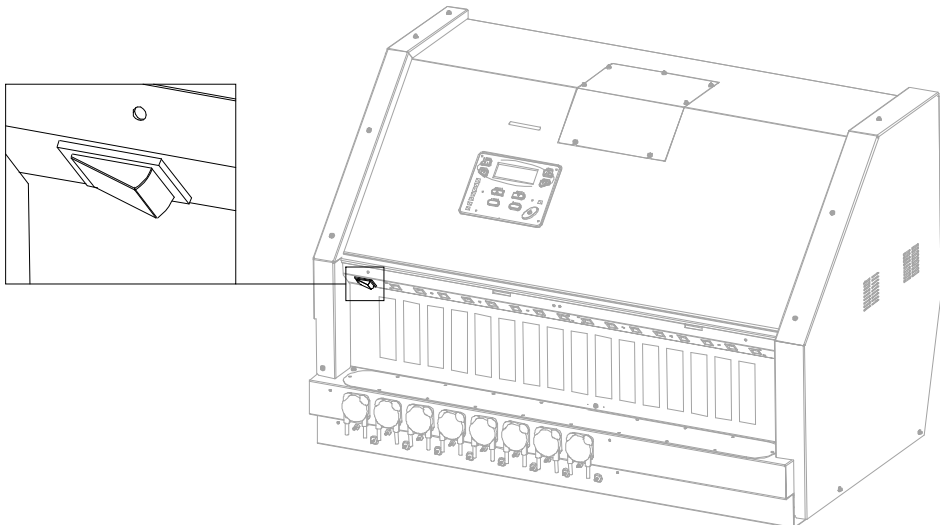
5.2.2 NozzleCheck

If printing quality declines, or if missing dots are evident after the NozzleCheck, the print heads need to be cleaned. Refer to "Head cleaning" to perform head cleaning. After finishing the head cleaning, wait for 10 minutes and perform the NozzleCheck again.

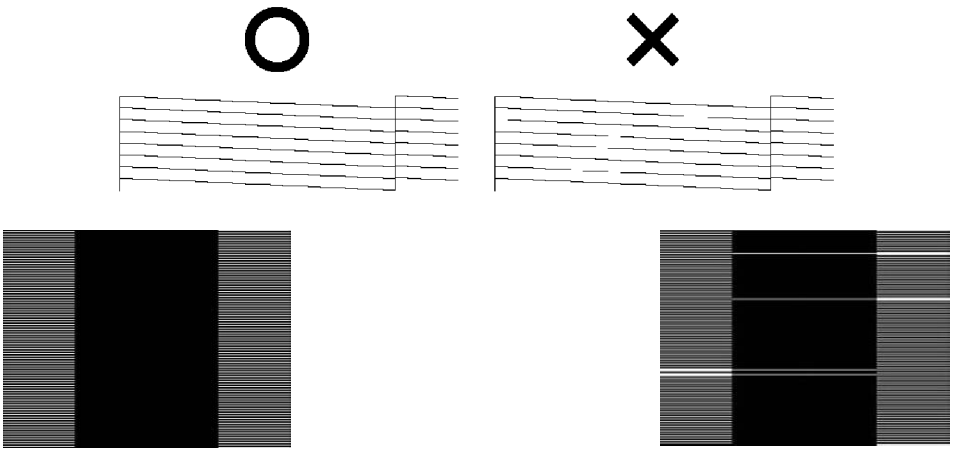
Use this function to check if there is any clogging of nozzles, missing dots or faint printing.

⚠ Notes ⚠

Make use of the blue light to evaluate the yellow nozzles. The switch for this light can be found here:



Following pattern will be printed. The numbers above the NozzleCheck represent the heads. In case there are some missing nozzles, it is possible to clean the head separately. Please refer to the "Cleaning Menu".



5.2.3 Alignment

Use this function to adjust the print quality for best results.

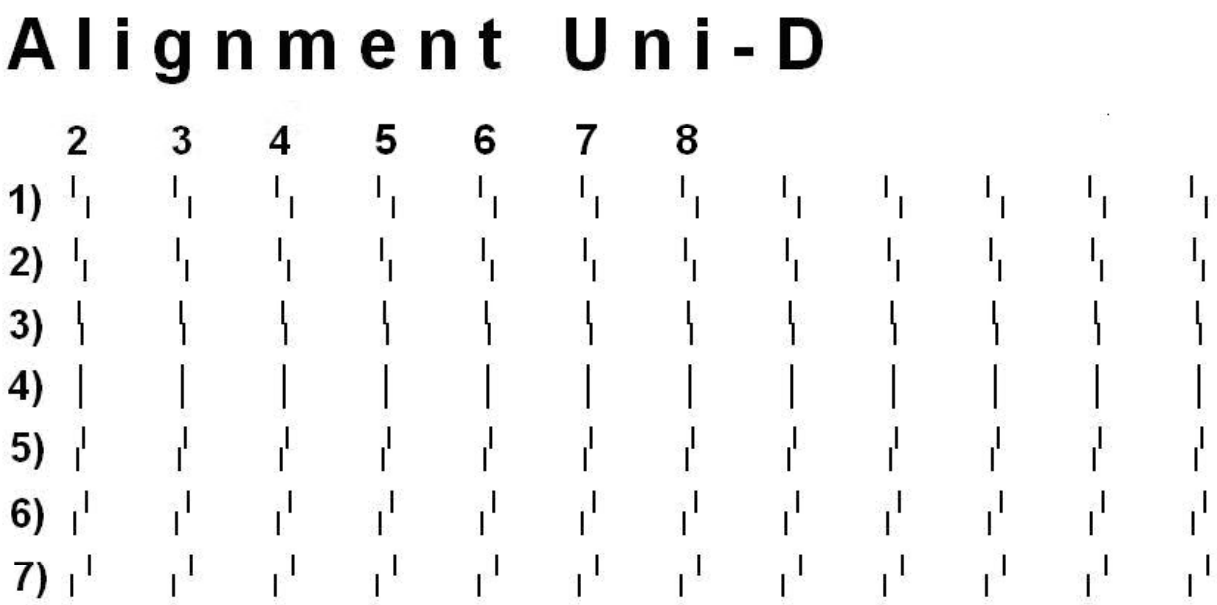
⚠ Notes ⚠

The print quality of your printer is pre-adjusted when it is shipped. When the installation environment of the printer or media type has been changed and print quality declines, use this alignment function.

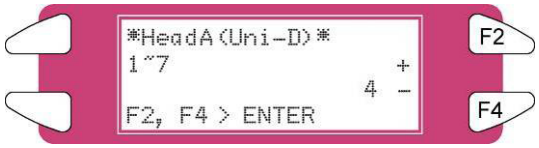
Step 1 : Switch the power of the unit ON, and set the media.

Step 2 : Perform an accuracy adjustment printing for alignment according to "TestPrinting".
- When performing uni-directional printing: Alignment (for the uni-direction printing)
- When performing bi-directional printing: Alignment (for the bi-direction printing)

Step 3 : From "Head A" in the printing sample, select a number in which the straight line appears with the least blur.



Step 4 : Press either the [F2] key or [F4] key to select the number of the line you choose in the previous step.



Step 5 : Press the [Enter] key to register the setting value of "Head A".

Step 6 : Repeat the steps from 3 to 5 to register all settings followed "Head A".

5.2.4 Colour palette

Use this function to compare the colour settings of the computer print colour of the printer.
This palette is printed in the mode you are currently working (PrintMode settings).
We recommend printing the palette in 360x360.

5.2.5 Maintenance record

Use this function to check the life cycles of the printer parts.

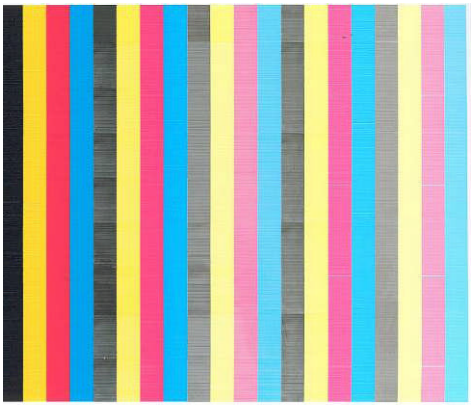
⚠ Notes ⚠

A part its life cycle is shown by the amount of * marks. When a life cycle comes to an end, the * mark reduces.

```
========== Maintenance Record ==========
Version             : sf 0.108mA
Ink Cart.1          : E******F
Ink Cart.2          : E***** F
Ink Cart.3          : E******F
Ink Cart.4          : E***** F
Ink Cart.5          : E******F
Ink Cart.6          : E******F
Ink Cart.7          : E******F
Ink Cart.8          : E******F
Ink Cart.9          : E******F
Ink Cart.10         : E******F
Ink Cart.11         : E******F
Ink Cart.12         : E******F
Ink Cart.13         : E******F
Ink Cart.14         : E******F
Ink Cart.15         : E******F
Ink Cart.16         : E******F
Cutter Life         : E******F
Page Count          : 1544
Ink Pad             : E***** F
CR Motor Life       : E******F
PF Motor Life       : E******F
Head Life           : E******F
Cleaner Life        : E***** F
Pump Life           : E******F
ChipMgr Printer     : 0
ChipMgr Printer ERROR
```

5.2.6 Distance adjustment check pattern

Use this function to check if the step is set correctly. Please refer to the next chapter for more information. This adjustment is one of the most important to have a good print.



5.3 SET THE CORRECT DISTANCE ADJUST (STEP)

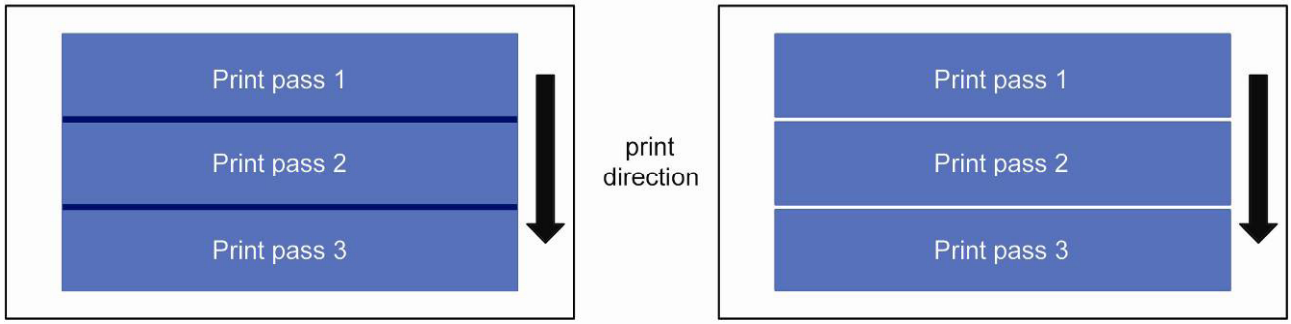
Obtaining constant printing quality on a wide-format printer is not only determined by the working environment, the RIP, the profiles, the inks or the media which are used. One of the key factors for obtaining constant output quality is the correct distance adjustment, also called "step".

5.3.1 Basics about the step

Every image is printed in several print passes. After every pass, the media is fed an amount of millimetres. When the step is not set correctly, the passes will overlap each other or will not be printed precisely next to each other which results in white bands between two print passes.

Therefore a function, distance adjust (or step), is added to the menu to control this feed operation.

Refer to the table below for visual support



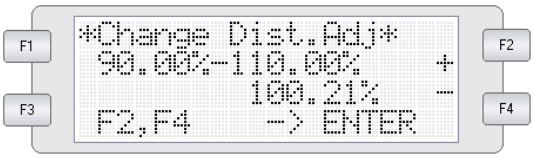
UNDERFEED = step between the print passes is too small which results in the passes to overlap each other.

OVERFEED = step between the print passes is too large which results in the passes to be printed too far from each other.

⚠ Notes ⚠

It is recommended to start printing with a step of 100.00% and to adjust it afterwards. Once a step is set for a particular media it will not change on following conditions:

- The step is only applicable on the printer in question and not interchangeable.
- The media manufacturer does not change any specifications (especially backing) of the media.
- The standard take-up system is used in combination with the i² technology.
- The optional unwinder/winder 100 is used.



Please refer to the next chapter to know where and how to change the step.

5.3.2 How to determine and change the step

Step 1 : Power ON the printer.
Step 2 : Load the media to print on.

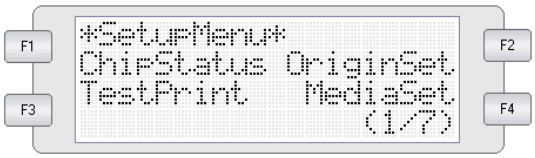
⚠ Notes ⚠

Be sure to tighten the media to the winder 100 before setting the step. This because the step will be different when printing roll-to-sheet than when printing roll-to-roll.

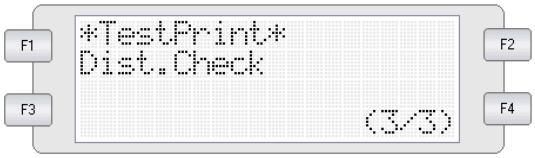
Step 3 : Perform a NozzleCheck to be sure all nozzles are present. If not, perform the necessary cleanings.

Step 4 : Set the step to 100.00%

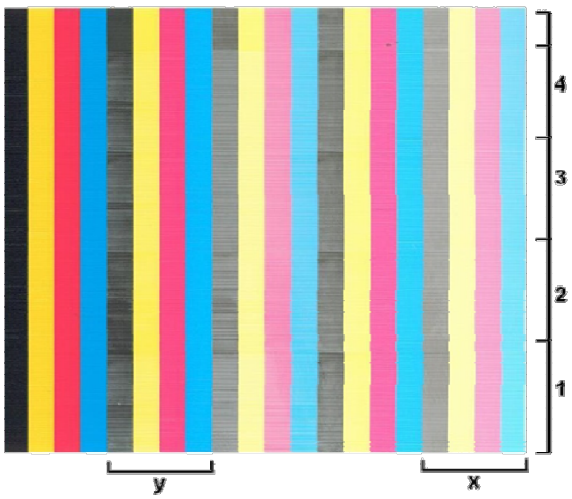
Step 5 : Print the test pattern.



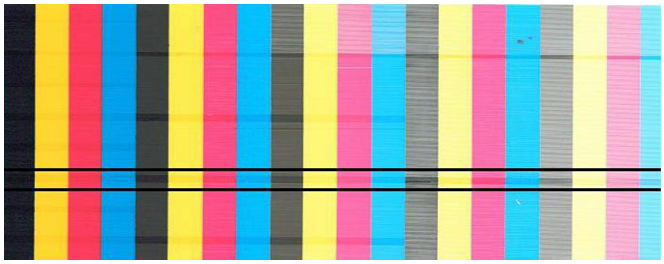
▼



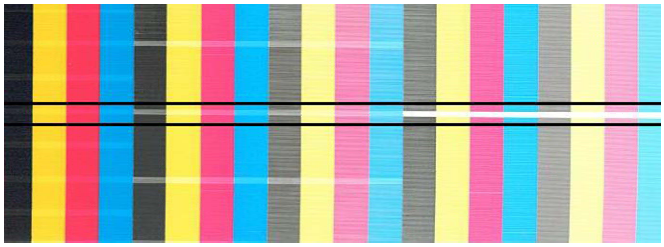
To evaluate the print, you should look for gaps or overlaps between the different passes (1-4). The direction of the adjustment (increase or decrease the step adjust value) is the easiest to check in the X-rows. To check the quality, the Y rows should be the standard.



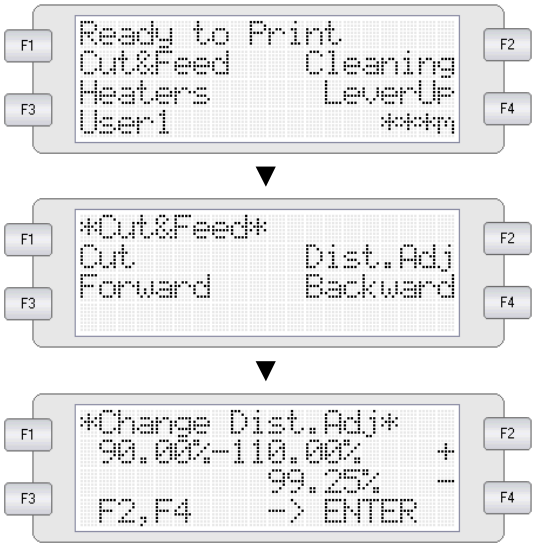
Step is too small ► overlap visible between passes



Step is too big ► gap visible between passes



Step 6 : Change the step if necessary.

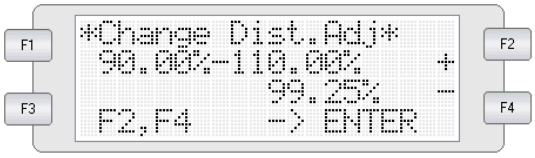


Step 7 : Print the test pattern again until no gap or overlap is visible anymore.

5.3.3 How to change the step on the fly.

Step 1 : Press F1 while printing.

Step 2 : Press F2 or F4 to change the step.



5.4 PRINTING FLOW

The following flowchart gives you a view on which steps should be taken to make a print.

SELECT MEDIA
(Refer to the media compatibility lists on www.mutoh.be)
▼
LOAD MEDIA
(Refer to the chapter "Loading Media")
▼
PERFORM NOZZLECHECK AND CLEANINGS IF NECESSARY
(Refer to the chapter "TestPrinting")
▼
SET STEP
(Refer to chapter "Set the correct distance adjust")
▼
SELECT IMAGE
▼
LOAD DEDICATED PROFILE (*) AND RIP IMAGE
(Refer to profiles section on www.mutoh.be)
▼
DECIDE WHICH WEAVING PATTERN SHOULD BE USED (SIGN/PICTURE)
(Refer to chapter "i² technology")
▼
PRINT IMAGE

---

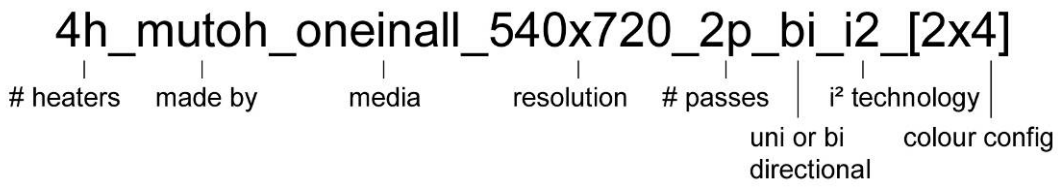
* It is highly recommended to use one of the profiles Mutoh is making available on the website. A lot of parameters are included.

The most important ones are:

Ink an colour management related	PrintMode related	Media related
Ink Restrictions	Resolution	Heater settings
Linearization	Amount of passes	Media thickness
Ink limits	Unidirectional – Bi Directional	HeadHeight
ICC Profile	Weaving ON – OFF	

The file name of each profile is build up in the same way

For example



6 PRINTER MENU

6.1 How to work in the menu 95
6.1.1 Main screen 95
6.1.2 Menu screen 95
6.1.3 Changing between the screens 96
6.2 Operation panel IN standby mode 97
6.2.1 [F1] – Feeding, Cutting media and Step Adjust 97
6.2.2 [F2] - Cleaning the heads 98
6.2.3 [F3] - Controlling the heater elements 99
6.2.3.1 Change the heater temperature 99
6.2.3.2 Change the fixer temperature 100
6.2.3.3 Change the post fixer temperature 100
6.2.3.4 Change the dryer temperature 100
6.2.3.5 Activate/ deactivate heaters. 100
6.2.3.6 PrintStart 101
6.2.4 [F4] - Operating the pressure rollers 101
6.2.5 [ENTER] - Print mode check 101
6.3 Operating panel during printing 102
6.3.1 When heaters are not ready 102
6.3.2 When heaters are ready 102
6.3.2.1 [F1] - On the fly step adjustments. 102
6.3.2.2 [F2] - Cleaning 103
6.3.2.3 [F3] - Adjust heaters 103
6.3.2.4 [F4] - Loading ink volume during printing 104
6.3.2.5 Menu ▼ and ▲ 105
6.4 Operations after printing 106
6.4.1 Automatic Media Cutting 106
6.4.2 Manual Media Cutting 107
6.5 Menu overview (1/7 – 7/7) 108
6.5.1 Setup Menu 1/7 111
6.5.1.1 Ink status / Chip Status menu 111
6.5.1.2 Origin set menu 112
6.5.1.3 Test print menu 113
6.5.1.4 Media set menu 113

6.5.1.5 Media menu 114
6.5.1.6 User media menu 114
6.5.1.7 InkDry menu 115
6.5.1.8 Head Height menu 116
6.5.1.9 Vacuum menu 116
6.5.1.10 Fan Mode menu 116
6.5.1.11 Thickness menu 117
6.5.1.12 Heater A menu 117
6.5.1.13 Heater B Menu 118
6.5.1.14 Heater C menu 118
6.5.1.15 Heater D menu 119
6.5.1.16 HStatus menu 119
6.5.1.17 Media feed compensation menu 120
6.5.1.18 Change media feed compensation value menu 120
6.5.1.19 Printing by Media feed compensation menu 121
6.5.1.20 Top feed menu 121
6.5.1.21 Media cut menu 122
6.5.2 Setup Menu 2/7 122
6.5.2.1 Printing mode menu 122
6.5.2.2 Printing mode setup menu 123
6.5.2.3 Condition menu 124
6.5.2.4 InterLace Setup menu 125
6.5.2.5 Printing direction menu 125
6.5.2.6 HeadSet menu 126
6.5.2.7 Head speed menu 126
6.5.2.8 Repeat printing menu 127
6.5.2.9 Count menu 127
6.5.2.10 Interval time menu 127
6.5.2.11 Weaving menu – i² 128
6.5.2.12 i² print mode advisory 129
6.5.2.13 ScanWidth 130
6.5.2.14 Command setup menu 130
6.5.2.15 Print step menu 131
6.5.2.16 Image resolution menu 131
6.5.2.17 Online time out menu 132

6.5.2.18 Layout setup menu 132
6.5.2.19 Joint printing menu 132
6.5.2.20 Cutting position Menu 133
6.5.2.21 Function setup menu 133
6.5.2.22 CMY → K menu 133
6.5.2.23 Scale menu 134
6.5.3 Setup Menu 3/7 134
6.5.3.1 Roll setup menu 134
6.5.3.2 Roll media length menu 135
6.5.3.3 Centronics menu 135
6.5.3.4 Network setting menu 135
6.5.3.5 IP address menu 136
6.5.3.6 Subnet mask menu 136
6.5.3.7 Gateway menu 136
6.5.4 Setup Menu 4/7 137
6.5.4.1 Utility menu 137
6.5.4.2 ErrorDisplay menu 138
6.5.4.3 Power on cleaning menu 138
6.5.4.4 Media width menu 139
6.5.4.5 Print and wipe menu 139
6.5.4.6 Cover Fan Menu 140
6.5.4.7 Smart Top Menu 140
6.5.4.8 Auto Cleaning Menu 140
6.5.4.9 Cap Cycle menu 141
6.5.4.10 SlantCheck menu 141
6.5.4.11 HeaterTest menu 142
6.5.4.12 RemPanel 142
6.5.4.13 RemConn 142
6.5.4.14 Language 143
6.5.4.15 Weave engine 143
6.5.4.16 File management setup menu 144
6.5.4.17 Write mode menu 145
6.5.4.18 Re-print menu 146
6.5.4.19 File delete menu 146
6.5.4.20 Re-name menu 147

6.5.4.21 Format menu 148
6.5.4.22 Initialize setup menu 149
6.5.4.23 All Initialize menu 149
6.5.4.24 Media setup Initialize menu 150
6.5.4.25 Printing mode initialize menu 150
6.5.4.26 Command setup Initialize menu 150
6.5.4.27 Layout Setup Initialize menu 151
6.5.4.28 Function setup Initialize menu 151
6.5.4.29 Roll media setup Initialize menu 151
6.5.4.30 Centronics Initialize menu 152
6.5.4.31 Network Initialize menu 152
6.5.4.32 Utility Initialize menu 152
6.5.4.33 File management Initialize menu 153
6.5.5 Setup Menu 5/7 153
6.5.5.1 Data dump menu 153
6.5.5.2 Ink Manager menu 154
6.5.5.3 Colour Mode menu 155
6.5.5.4 Ink Kind menu 155
6.5.5.5 Charge / Discharge Menu 156
6.5.5.6 Chip Manager Menu 160
6.5.5.7 Ink Supply Menu 160
6.5.6 Setup Menu 6/7 161
6.5.6.1 Manual Maintenance menu 161
6.5.6.2 Tubing Flush menu 162
6.5.6.3 Head Unlock menu 162
6.5.7 Setup Menu 7/7 163
6.5.7.1 Version Check menu 163
6.5.7.2 Master 163
6.5.7.3 Slaves 163
6.5.7.4 Config 163
6.5.7.5 Area 163

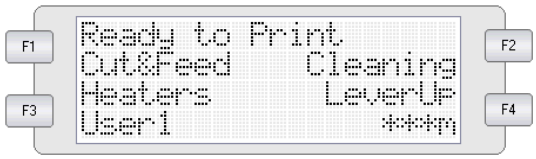
6.1 HOW TO WORK IN THE MENU

Please find below all necessary information on how to switch, select and cancel menu items.

6.1.1 Main screen

When powering ON the printer, it will (when no errors occur) start up in its main screen. The function of each key is explained below

1 →
2 →
4 →
6 →



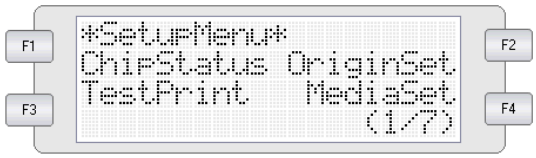
← 3
← 5
← 7

N°	Position	Description
1	1st line	Displays the current status of the printer. Depending on the status, the contents may be displayed in 2 to 4 lines.
2	Left of 2nd line	Displays the function assigned to [F1] key.
3	Right of 2nd line	Displays the function assigned to [F2] key.
4	Left of 3rd line	Displays the function assigned to [F3] key.
5	Right of 3rd line	Displays the function assigned to [F4] key.
6	Left of 4th line	Displays the currently set media type.
7	Right of 4th line	Displays the approximate amount of remaining media that is currently set. (Unit: m) However, the amount is displayed only when either "Roll media 1", "Roll media 2", or "Roll media 3" is selected in the Roll media setting menu.

6.1.2 Menu screen

In the SetupMenu, changes can be made to the printer settings.
The content displayed on the LCD monitor of the operation panel is as follows:

1 →
2 →
4 →



← 3
← 5
← 6

N°	Position	Description
1	1st line	Displays the setting menu name currently set.
2	Left of 2nd line	Displays the function assigned to [F1] key.
3	Right of 2nd line	Displays the function assigned to [F2] key.
4	Left of 3rd line	Displays the function assigned to [F3] key.
5	Right of 3rd line	Displays the function assigned to [F4] key.
6	4th line	Displays the currently available functions of the [F1] key to the [F4] key. Displays the page status if there are multiple pages for the currently displayed setting menu.

6.1.3 Changing between the screens

To change the printer status, follow the steps below.

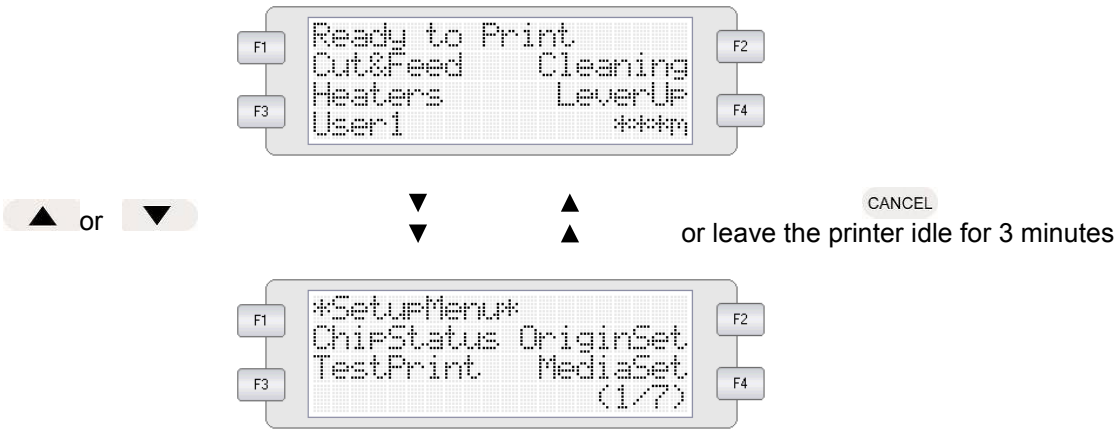
From main screen to menu screen

Press either ▲ or ▼ when the printer is in the main screen to go to menu screen 1/7 – 7/7

From menu screen to main screen

To switch from a menu screen to the main screen, following actions can be taken:

Press the [CANCEL] key.
Leave the printer for 3 minutes when the status is in the setting menu display.



6.2 OPERATION PANEL IN STANDBY MODE

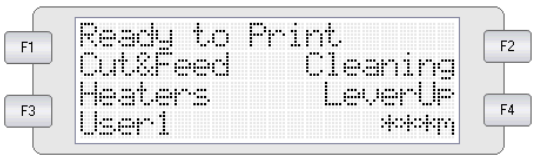
⚠ Notes ⚠

For information of the name and function of each key, refer to "Operation panel".

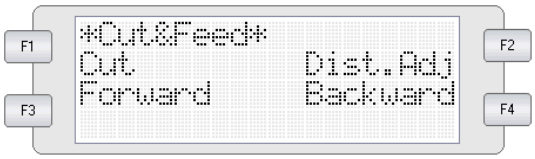
6.2.1 [F1] – Feeding, Cutting media and Step Adjust

When you want to feed media forward or backward, follow the steps below:

Step 1 : Verify the following regarding the condition of the printer.
I) It is not currently printing



Step 2 : Press the [F1] key of the operation panel.
I) To shift to the Cut&Feed menu.



Step 3 : Press the [F3] key or the [F4] key.
I) The product will perform following operations:

Setup items	Key name	Parameters	Description
Cut & Feed	F1	Cut	Cut media
	F2	Dist.Adj.	Set step
	F3	Forward	Feeds media forward.
	F4	Backward	Feeds media backward.

⚠ Notes ⚠

If "Take-Up Roll" is set in the media detection setup menu, the product will not operate even if the [F4] key has been pressed.

6.2.2 [F2] - Cleaning the heads

Step 1 : Press the [F2] key.

F1	To select head
F2	To choose which head should be cleaned (ALL, head 1, 2, 3, 4, 5, 6, 7 or 8)
F3	Little, normal or a powerful cleaning?
- …….-	Selected heads

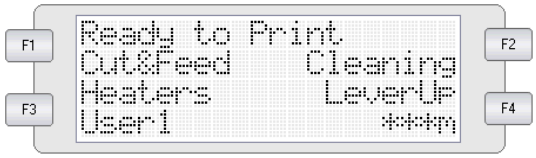
Step 2 : To define the heads which should be cleaned with the [F2] key and select them with the [F1] key. To deselect one or more heads, select them again.

Step 3 : Press the [ENTER] key to start the cleaning procedure.

6.2.3 [F3] - Controlling the heater elements

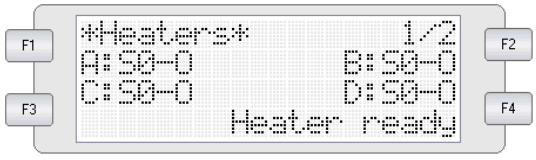
Step 1 : Press the [F3] key.

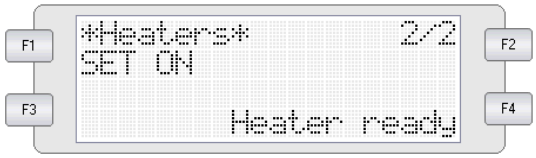
- The printer works as follows.



By pressing the [F1] key, you will have direct access to control or change the heater temperatures.

After pressing the [F1] key in the normal status, the operation panel will mention the following:



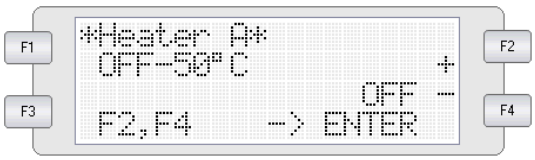


The '*heater message*' can be one of the following:

Heater busy
Heater ready

'*A*' stands for the heater.
'*B*' stands for the fixer.
'*C*' stands for the post fixer.
'*D*' stands for the dryer.
'*H*' stands for heating (heaters are heating up).
'*T*' stands for target (heaters are on temperature).
'C' stands for cooling (heaters are cooling down).
'*O*' stands for off (heaters are off).

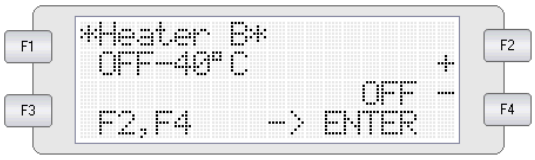
6.2.3.1 Change the heater temperature



Press the [F2] key to decrease the temperature.
Press the [F4] key to increase the temperature.
Press the [ENTER] key to confirm the requested temperature change.
Press the [CANCEL] key to leave the menu without changing the heater settings.

6.2.3.2 *Change the fixer temperature*

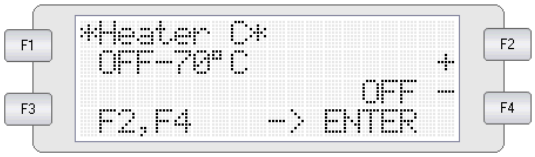
To change the temperature of the fixer, press the [F2] key. The display will mention the following:



Press the [F2] key to decrease the temperature.
Press the [F4] key to increase the temperature.
Press the [ENTER] key to confirm the requested temperature change.
Press the [CANCEL] key to leave the menu without changing the heater settings.

6.2.3.3 *Change the post fixer temperature*

To change the temperature of the post fixer, press the [F3] key. The display will mention the following:



Press the [F2] key to decrease the temperature.
Press the [F4] key to increase the temperature.
Press the [ENTER] key to confirm the requested temperature change.
Press the [CANCEL] key to leave the menu without changing the heater settings.

6.2.3.4 *Change the dryer temperature*

To change the temperature of the dryers, press the [F4] key. The display will mention the following:

Press the [F2] key to decrease the temperature.
Press the [F4] key to increase the temperature.
Press the [ENTER] key to confirm the requested temperature change.
Press the [CANCEL] key to leave the menu without changing the rear heater settings.

6.2.3.5 *Activate/ deactivate heaters.*

In the second menu, press the [F1] key to activate or deactivate all heating elements.

In case the heating elements have been activated, the display will mention "SET OFF". By pressing the [F4] key you can deactivate the heating elements. The display will mention "SET ON".

In case the heating elements have been deactivated, the display will mention "SET ON". By pressing the [F4] key you can activate the heating elements. The display will mention "SET OFF".

Please note that after finishing a printing job (and no other print job has been sent to the printer the heating elements will keep their temperature for approximately 6 minutes). After 6 minutes the heating elements are powered OFF.

6.2.3.6 PrintStart

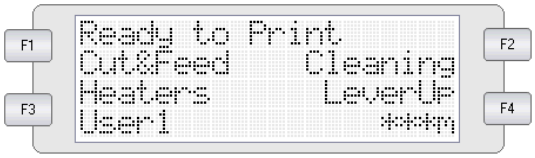
When you choose this option, printing will start immediately. However, the heaters will continue to warm up in order to reach the requested temperature.

6.2.4 [F4] - Operating the pressure rollers

When you want to switch the up and down movement of the pressure rollers follow the steps below.

Step 1 : Press the [F4] key.

- The printer works as follows.



Status of the printer	Operation after the [F4] key has been pressed
The pressure rollers have been lowered The MEDIA SET lamp switches off.	The pressure rollers are lifted The MEDIA SET lamp will switch on (orange).
The pressure rollers have been raised. The MEDIA SET lamp switches on (orange).	The pressure rollers are lowered. The MEDIA SET lamp will switch off.

⚠ Notes ⚠

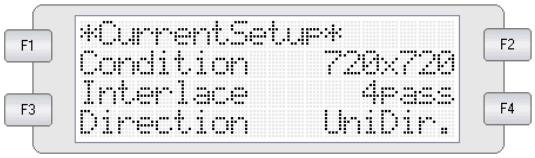
You can also switch the up and down movement of the pressure rollers using the foot switch instead of the operation panel.

6.2.5 [ENTER] - Print mode check

Step 1 : Press the [ENTER] key.

I) The following information is displayed for 3 seconds.

Line 2
Line 3
Line 4



N°	Position	Description	Reference
1	Line 2	The printing quality is displayed.	Refer to 'Printing quality menu'
2	Line 3	The interlace method is displayed.	Refer to 'InterLace Setup menu'
3	Line 4	The printing direction is displayed.	Refer to 'Printing direction menu'

Step 2 : When the printing mode display closes, the product changes to its main screen.

6.3 OPERATING PANEL DURING PRINTING

When sending a file to your printer, following messages can be displayed.

6.3.1 When heaters are not ready

The printer will not start printing before heaters are ready. Following message will be displayed.

Still, it is possible to start the print. However, the heater will continue to warm up in order to reach the requested temperature.

Step 1 : Press the F3 key to ENTER the HeaterStatus menu.

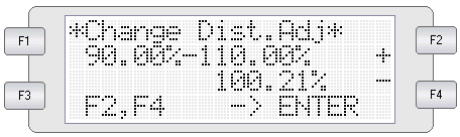
Step 2 : Go to submenu 2/2 and press the F2 key to start the print.

6.3.2 When heaters are ready

When heaters are ready, the printer will start printing.
While printing, some actions can be taken.

6.3.2.1 [F1] - On the fly step adjustments.

In case of overlapped printing images or white lines on printing image, the step should be adjusted.



(+) Increase in case of overlap

(-) Decrease in case of white lines between swats

⚠ Notes ⚠

For more details about step adjustment, please refer to "Media Feed Compensation"

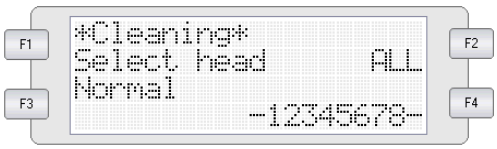
6.3.2.2 [F2] - Cleaning

While printing, it could be possible that some nozzles drop out, in that case, perform a little, normal or powerful cleaning.

Please follow the steps below to perform a cleaning.

When there are some missing nozzles, a cleaning should be done. Depending on the quantity of missing nozzles and which head, a little, normal or powerful cleaning on head 1-2, head 3-4 or ALL could be done.

Step 1 : Press the [F2] key of the operation panel.
I) To shift to the cleaning menu.



Step 2 : Press the [F1] key or the [F2] key.
I) The product will perform following operations:

Setup items	Key name	Parameters	Description
Cut & Feed	F1	ALL, Head 1 – Head 2	Clean ALL heads or head couple one or two
	F2	Little, normal, powerful	Set the intensity of a cleaning

Step 3 : Press the [ENTER] key to start the requested cleaning.

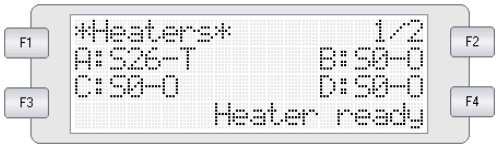
6.3.2.3 [F3] - Adjust heaters

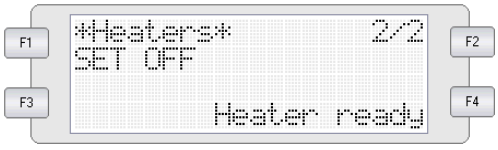
While printing, the heater values can be changed. For example: when noticing cockling.

Please follow the steps below to adjust the heater temperatures.

Step 1 : Press the [F3] key

Step 2 : Following screen will be displayed





Step 3 : Change the value of one or more heaters or switch them all off.

⚠ Notes ⚠

For more details about heater adjustment, please refer to "Controlling the heater elements on the Spitfire Extreme printer"

6.3.2.4 [F4] - Loading ink volume during printing

It is possible to load ink volume to the printer during printing.

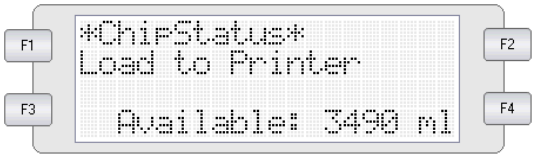
There are two possible scenarios:

SmartChip management system is not empty yet and the printer keeps printing.

Press the F4 key to load ink volume.

SmartChip management system is empty and the printer stops printing but does NOT cancel the print.

The following message will appear



Press the F4 key to load ink volume.

⚠ Notes ⚠

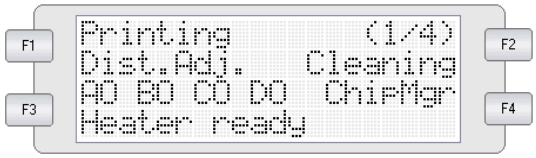
Please note that the heaters will switch off after 15 minutes. After that point you will have to reconfigure the heaters manually before resuming the print job. This is the same behaviour as when a cassette gets empty.

6.3.2.5 Menu ▼ and ▲

During printing, extra information about the current job is available. Use the menu UP and DOWN keys to browse through these menus.

1) Menu 1/4

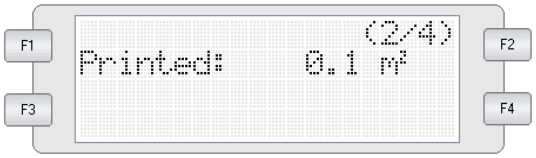
Standard menu during printing.

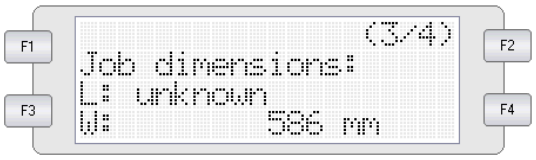


2) Menu 2/4 and 3/4

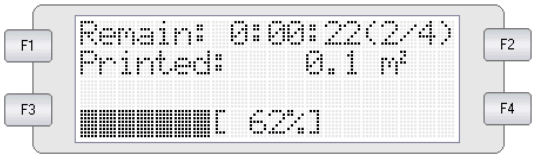
Two situations are possible:

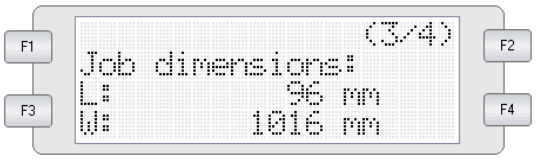
Length information is not provided with the job. The printer cannot know progress and remaining time. However, size of the already printed area is shown.





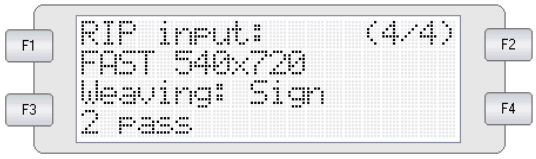
Length information is provided; the printer calculates progress and remaining time. The correctness of this depends on the correctness of the provided information.





4) Menu 4/4

This menu displays the important print parameters provided by the RIP software.



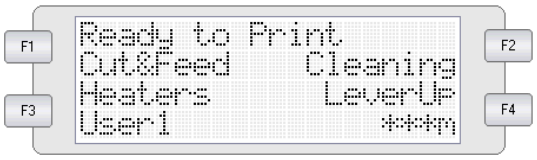
6.4 OPERATIONS AFTER PRINTING

6.4.1 Automatic Media Cutting

The media cutting procedure is described below.
Roll media is automatically cut after printing when "Auto" has been set on the cut media menu and roll media has been set.
When the operation panel is in the normal status, and the product is in the following conditions, the media can be cut on the desired position:

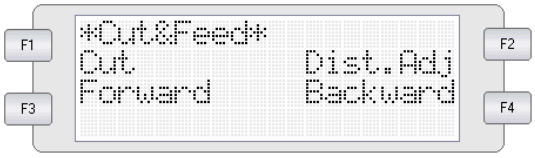
When roll media has been set:
If "OFF" has been set on the cut media menu
If "Take Up Roll" has been set in the media detection setup menu
When sheet media has been set

Step 1 : Make sure that the MEDIA SET lamp is off.



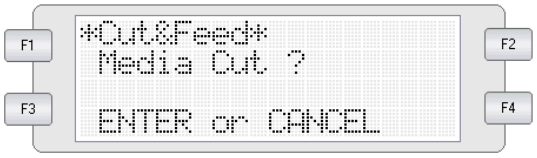
Step 2 : Press the [F1] key.

- Shift to the cut and feed menu.



Step 3 : Feed media to the desired position according to the procedure in "Feeding media".

Step 4 : Press the [F1] key.



- The media is cut at its position when the [ENTER] key has been pressed.

⚠ Notes ⚠

If the front edge of the roll media is not straight when you load new roll media, you should cut its edge.
Cutting blades are consumable. Replace them at regular intervals following "Replacing the cutting blade".

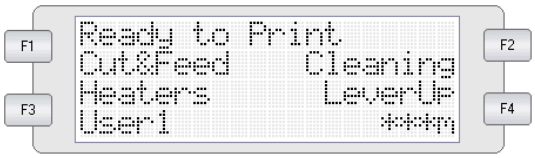
6.4.2 Manual Media Cutting

This section explains how to cut the media manually.
When "Manual" is set in the media cut menu, the media can be cut manually.
Cut the media according to the following procedure.

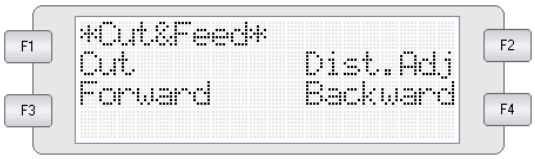
Step 1 : Make sure that the MEDIA SET lamp is off.

⚠ Notes ⚠

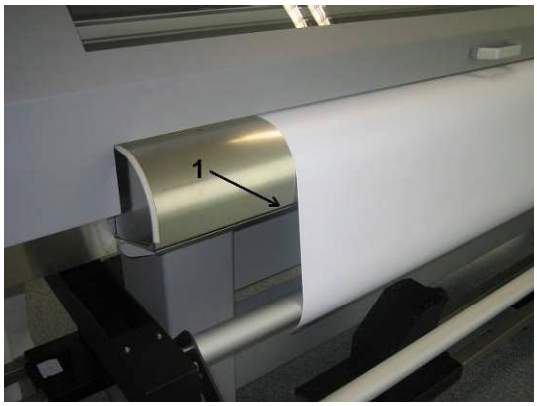
After printing, the media is automatically transferred to the media cutting position.
Do not use the cutting blade when media retainers have been installed.



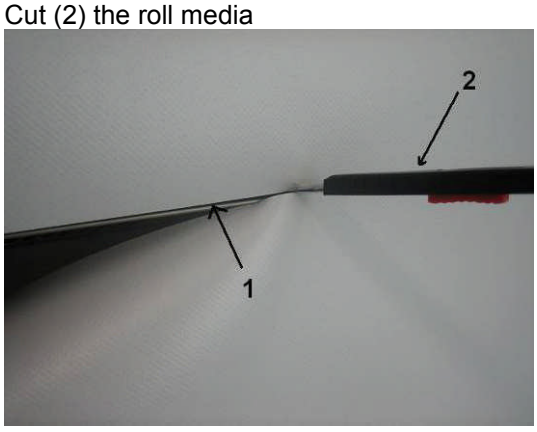
Step 2 : Press the [F1] key.
Shift to the cut and feed menu.



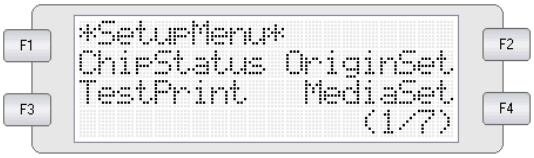
Step 3 : Feed media to the knife guide (1) according to the procedure in "Feeding media".

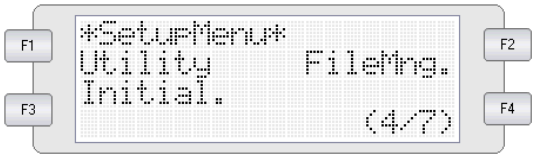


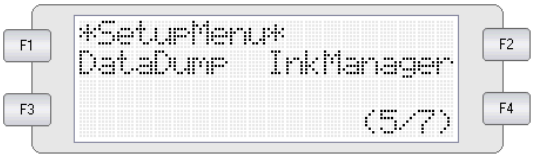
Step 4 : Cut (2) the roll media

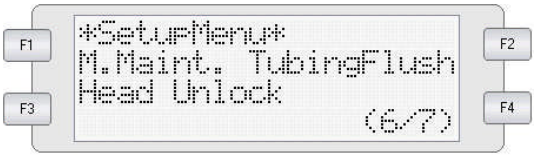


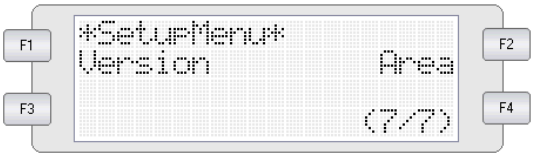
6.5 MENU OVERVIEW (1/7 – 7/7)











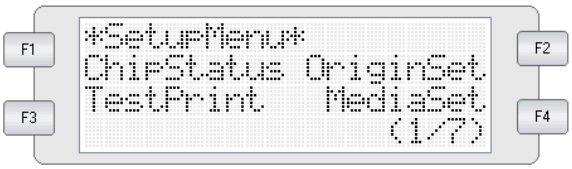
Menu	Parameters	Description
1/7	Ink status Or ChipStatus	Displays the information (ink status) for each ink cassette installed in the ink cassette slot. (when in cassette mode) Displays the information of the SmartChip management system. (when in printer mode)
	Origin setting	Sets the printing start position (origin) for printing data.
	Test print	Performs test printing.
	Media setting	Makes various media settings.
2/7	Print mode setting	Makes various print mode settings.
	Command setting	Makes various printer command settings.
	Layout setting	Makes various layout function settings.
	Function setting	Makes various processing printing data settings.
3/7	Roll setup setting	Makes various roll media settings.
	Centronics setting	Sets Centronics Interface communication mode.
	Network setting	Makes the settings for the network interface.
4/7	Utility setting	Makes various advanced function settings.
	File management setting	Makes various settings for the processing method of the printing data sent from computer to the installed hard disk in the printer.
	Initialize setting	Returns the parameters to factory default values.
5/7	Data dump	The dump printing for the online feature check will be performed.
	Ink Manager	Perform 'HeadWash', 'InkChange' or 'Charge, Discharge'.
6/7	Manual Maintenance	Makes the carriage go to the left maintenance area.
	Tubing Flush	Makes various tubing flush settings
	Head Unlock	
7/7	Version Check	Ability to view the installed firmware version.
	Area	Ability to view to total printed area in m²
Back	-	Press the [CANCEL] key to go back to the start screen.

MENU STRUCTURE TREE

Menu (1/7)	Ink Status / ChipStatus						
	Origin Set						
	Test Print	(1/3)	Setup				
			Nozzle Check				
			Adj. Uni-D				
			Adj. Bi-D				
		(2/3)	Bi-D400				
			Bi-D480				
			Palette				
			Maintenance				
		(3/3)	Dist. Check				
	Media Set	(1/1)	Media	(1/2)	User 1	(1/3)	Ink Dry Time
					User 2		Head Height
					User 3		Vacuum
					User 4		FanMode
						(2/3)	Thickness
							Heater A
				(2/2)	User 5		Heater B
					User 6		Heater C
					User 7	(3/3)	Heater D
					User 8		HStatus
							Dist.Adj
			Top Feed				
			Media Cut				
Menu (2/7)	Print Mode	(1/1)	Prn Mode 1	(1/2)	Condition		
			Prn Mode 2		Direction		
			Prn Mode 3		HeadSet		
			Prn Mode 4		HeadSpeed		
				(2/2)	Repeat Prn		
					Weaving		
					ScanWidth		
	Command	(1/1)	Step				
			Resolution				
			OnlineTimer				
	Layout	(1/1)	Joint				
			CutPosition				
	Function	(1/1)	CMY > K				
			Scale				
Menu (3/7)	Roll Setup	(1/1)	Disable				
			Roll 1				
			Roll 2				
			Roll 3				
	Centro	(1/1)	Centro				
			BiCentro				
	Network	(1/1)	Ipaddress				
			SubnetMask				
			GateWay				

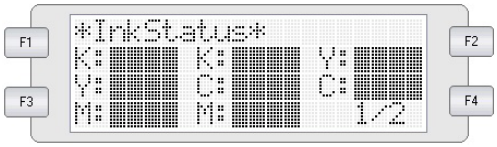
Menu (4/7)	Utility	(1/3)	ErrorDisp
			OnCleaning
			Width
			Prn + Wipe
		(2/3)	CoverFan
			Smart Top
			AutoCleaning
			CapCycle
		(3/3)	SlantCheck
			HeaterTest
			RemPanel
	FileMng	(1/2)	WriteMode
			Reprint
			Delete
			Rename
		(2/2)	Format
	Initial	(1/3)	All
			MediaSet
			PrintMode
			Command
		(2/3)	LayOut
			Function
			RollSetup
			Centro
		(3/3)	Network
			Utility
			FileMng
Menu (5/7)	DataDump	(1/1)	Start/End
			All
	InkManager	(1/2)	ColorMode
			InkKind
			Charge/Discharge
			ChipMgr
		(2/2)	InkSupply
Menu (6/7)	M.Maint.		
	TubingFlush		
Menu (7/7)	Version	(1/1)	Master
			Slaves
			Config
	Area		

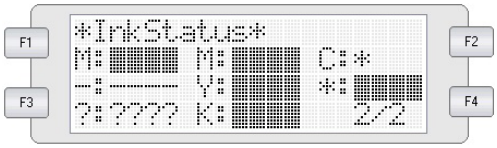
6.5.1 Setup Menu 1/7



6.5.1.1 Ink status / Chip Status menu

Depending on the mode the printer is in (cassette or printer mode), this menu will be displayed as InkStatus or ChipStatus.
The InkStatus menu gives all information regarding the 16 ink cassettes in the slots.



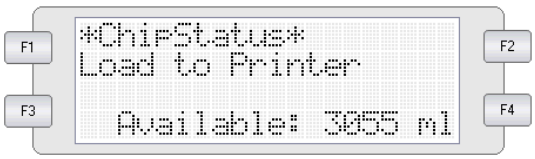


Setup items	Parameters	Description
InkStatus	Ink status for the ink cassette slots 1 – 16	Display 1/2 Line 2: ink cassette slots 1 – 3 Line 3: ink cassette slots 4 – 6 Line 4: ink cassette slots 7 – 8 Display 2/2 Line 2: ink cassette slots 9 – 11 Line 3: ink cassette slots 12 – 14 Line 4: ink cassette slots 15 – 16
		Symbols : (**Parameter 1 : Parameter 2**) **Ink Colour** : K = Black, C = Cyan, M = Magenta, Y = Yellow W = Cleaning Liquid **Ink Remaining:** 100%-80% 80%-60% 60%-40% 40%-20% 20%-0% Wrong ink kind Cassette not present Wrong ink colour Chip not present on cassette
	-	[CANCEL] key: shifts to the previous menu.

⚠ Notes ⚠

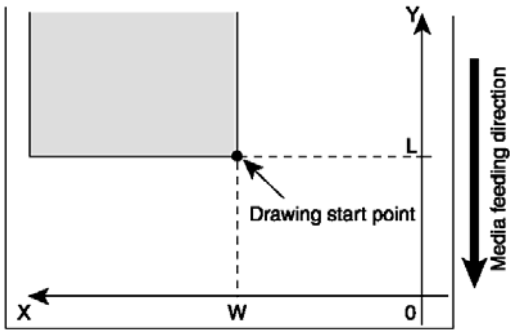
To display the Ink Status menu, be sure to use the recommended ink cassettes. If any other ink cassette is used, the ink status will not be correctly displayed.

In the ChipStatus menu it is possible to load ink volume to the SmartChip management system or to ink volume which is left. Please refer to "Working with Mutoh's SmartChip Management system" all the necessary information.



6.5.1.2 Origin set menu

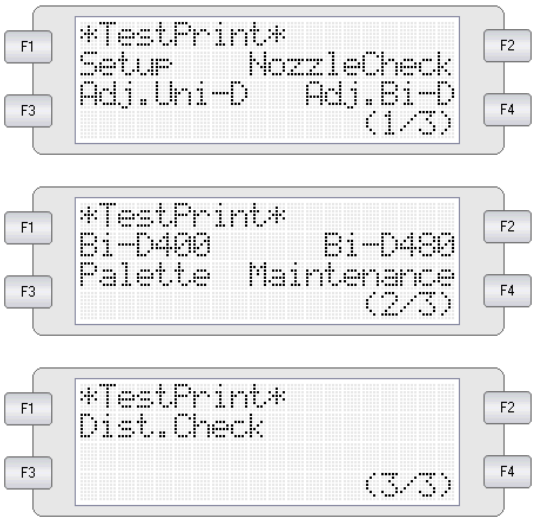
Sets the printing start position (origin) for printing data.
Use this when you want to re-print to blank area of the printed media by changing the layout of the printing data.

Setup items	**Parameters**	**Description**
Origin setting	• L: Media feed value • W: Print head movement value (Unit: mm)	Changes the print head position and media feed amount by operating the following keys. • [F1] key: Feeds media forward. • [F2] key: Moves the print head to the left. • [F3] key: Feeds media backward. • [F4] key: Moves the print head to the right. • [ENTER] key: Determines the setup values then returns to the previous hierarchical menu. 
	-	[CANCEL] key: shifts to the previous hierarchy menu.

⚠ Notes ⚠

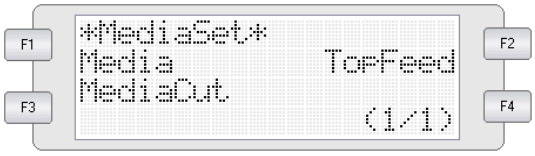
When printing from the data on the hard disk, the printing will start from the same start position as when the printing data was written, regardless the home position setting value.
The origin setup menu automatically ends without pressing any key for a certain period, to avoid drying the print head.

6.5.1.3 *Test print menu*



Setup items	Parameters	Description
Test print (1/3)	SetupPrint	Performs setup printing.
	NozzleCheck	Performs nozzle check printing.
	Alignment (UniDir)	Performs accuracy adjustment printing in one direction.
	Alignment (BiDir)	Performs accuracy adjustment printing in two directions.
Test print (2/3)	Bi-D400	Print a Bi-Directional adjustment pattern at 400 cps
	Bi-D480	Print a Bi-Directional adjustment pattern at 480 cps
	Palette printing	Performs palette printing.
	Maintenance status	Maintenance status printing is performed.
Test print (3/3)	Dist. Check	Print a distance adjustment check pattern. Only applicable for the 4x4 ink configuration.
Test print (1/3-3/3)	-	[CANCEL] key: shifts to the previous hierarchy menu.

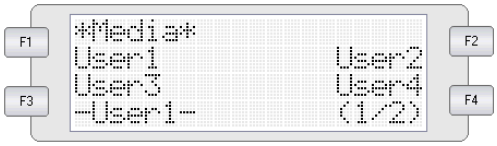
6.5.1.4 *Media set menu*

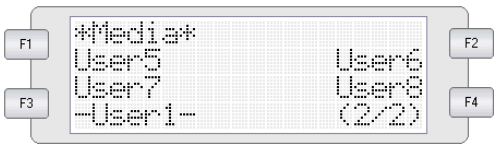


Setup items	Parameters	Description
Media setting	Type	Sets the media type used for test printing.
	Top feed	Sets the amount of media to be fed when printing begins. Make this setting when using roll media.
	Media cut	The method of cutting the media after printing is set here.
	-	[CANCEL] key: to shift to the previous hierarchy menu.

6.5.1.5 *Media menu*

Set media type for printing.





Setup items	Parameters	Description
Types (1/2)	User media 1	To set the type of media used for printing. For setup values of printing operation, eight settings of "user media 1-8" can be set.
	User media 2	
	User media 3	
	User media 4	
Types (2/2)	User media 5	
	User media 6	
	User media 7	
	User media 8	
Type (1/2-2/2)	-	[CANCEL] key: to shift to the previous hierarchy menu.

6.5.1.6 *User media menu*

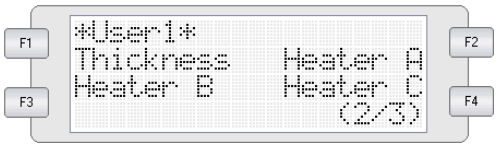
Makes various settings on user defined media.
In the User media menu, for each setup value of following printing operation, eight settings of "user media 1-8" can be set.

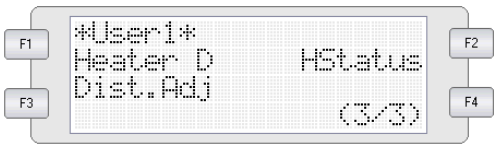
⚠ Notes ⚠

When media other than the recommended media are used (user media), the following problems may occur

- Media detection error
- Oblique, torn, and creased media
- Media jams
- Decrease in print quality due to blurring, missing, or smudging of ink
- End detection error of roll media

Problems caused by using media other than the recommended will void the warranty.
For more information, contact your local MUTOH dealer.

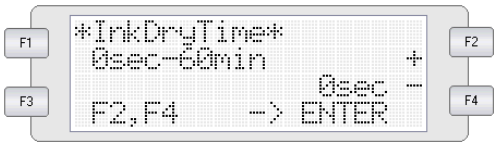




Setup items	Parameters	Description
User media 1-8 (1/3)	InkDryTime	In order to let the ink for the printing dry, the time between the end of the print and the beginning of the next print is set.
	HeadHeight	Sets the distance (head height) between the print head and the media.
	Vacuum	Sets the intensity of the fans.
	Fan Mode	To activate ALL the fans or the one under the media.
User media 1-8 (2/3)	Thickness	Makes the setting on the thickness of the media to be used.
	Heater	Sets the temperature of the Heater.
	Drier	Sets the temperature of the Drier.
	Fixer	Sets the temperature of the Drier.
User media 1-8 (3/3)	Post Fixer	Sets the temperature of the Drier.
	HStatus	Checks the temperature of heating elements.
	Dist.Adj	Performs various settings for media feed compensation.
Type (1/3-3/3)	-	[CANCEL] key: to shift to the previous hierarchy menu.

6.5.1.7 InkDry menu

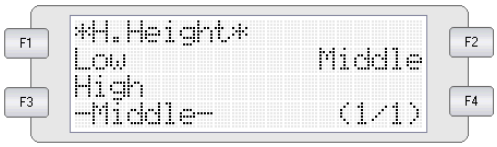
Sets the waiting period between the end of operation and the start of next printing in order to let the printed media dry.



Setup items	Parameters	Description
InkDryTime	0 to <30 sec. > to 270 sec. to 60 min.	To change the InkDryTime by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.1.8 *Head Height menu*

Head height can be changed to three levels according to media thickness.



Setup items	Parameters	Description
HeadHeight	Low	Make this setting when using media with a thickness of 80µm (0.08mm) to 300µm (0.3mm).
	Middle	Make this setting when using media with a thickness of 300µm (0.3mm) to 700µm (0.7mm).
	High	Make this setting when using media with a thickness of 700µm (0.7mm) to 1000µm (1.0mm).
	-	

⚠ Notes ⚠

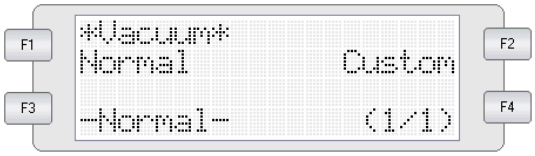
Set the height of the head in relation to the thickness of the media.

- If the setting is set to "High" and the print is created on thin media, good quality print results will not be achieved.

If the setting is set to "Low" and thick media is used, the media and print head will come into contact and may result in damage to the product.

6.5.1.9 *Vacuum menu*

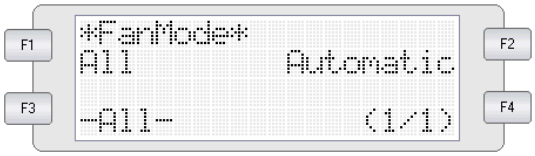
Set the intensity of the vacuum fans.



Setup items	Parameters	Description
Vacuum	Normal	100% of the capacity of the vacuum fans
	Custom	Adjustable from 0% to 100%
	-	

6.5.1.10 *Fan Mode menu*

With this function ALL fans or only the fans under the media will be activated.



Setup items	Parameters	Description
FanMode	ALL	To activate all fans under the print surface
	Automatic	To activate only the fans under the media
	-	

6.5.1.11 Thickness menu

To set the media thickness.

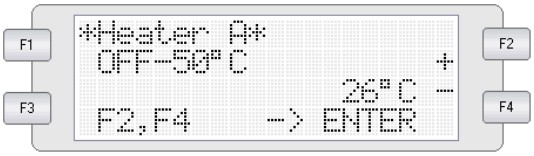
Setup items	Parameters	Description
Thickness	50µm-<100µm>1500µm	Change media thickness by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

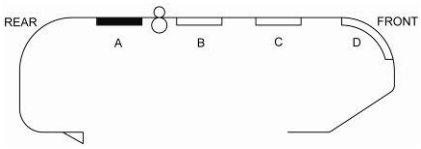
⚠ Notes ⚠

Bidirectional quality can only be obtained when media thickness is set correctly.

6.5.1.12 Heater A menu

Sets the temperature of the Heater.





Setup items	Parameters	Description
Heater A	OFF – 50°C	Change heater temperature by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

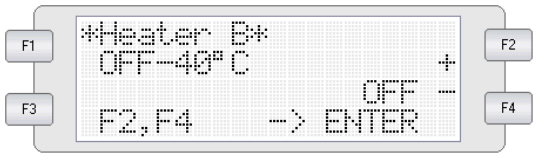
Use the [F2] or [F4] key to select the requested temperature for the Heater.

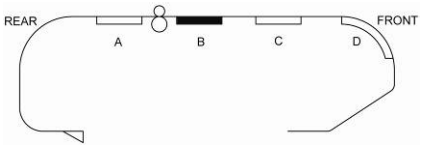
⚠ Notes ⚠

The default setting for the heater is set to '50°C'.
The function of the heater (A): Warming the transfer paper before entering the pressure rollers. The pre-expansion helps to minimize media cockling.

6.5.1.13 Heater B Menu

Set the temperature of the Fixer.

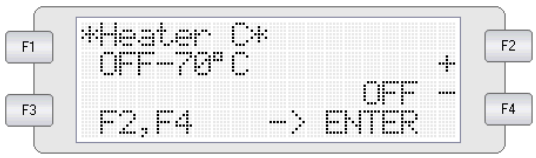


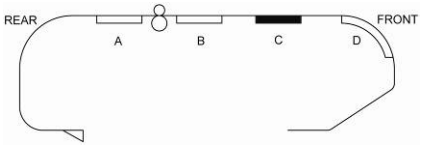


Setup items	Parameters	Description
Heater B	OFF – 40°C (for MS & MS Plus) OFF – 70°C (for Eco Ultra)	Change fixer temperature by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.1.14 Heater C menu

Set the temperature of the Post Fixer.

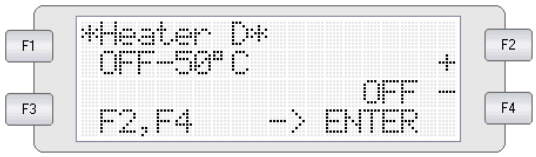


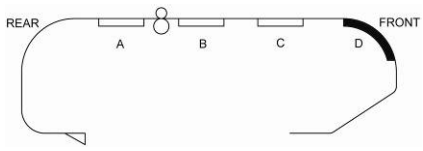


Setup items	Parameters	Description
Heater C	OFF – 50°C	Change post fixer temperature by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.1.15 Heater D menu

Set the temperature of the Drier.

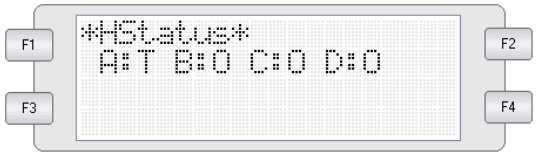




Setup items	Parameters	Description
Heater D	OFF – 50°C	Change drier temperature by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.1.16 HStatus menu

Check the temperature of the heating elements.



Press the [CANCEL] key to go to the previous menu.

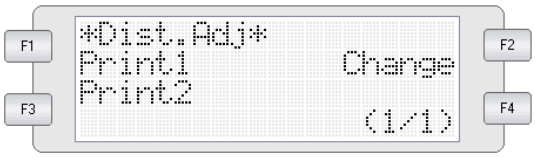
Setup items	Parameters	Description
HStatus	A: B: C: D:	A, B, C, D = Heaters **O** means that heater is switched OFF **H** means that this heater is busy HEATING **C** means that this heater is COOLING down **T** means that this heater is ON TARGET (reached set temperature) **I** means that this heater group is initializing **E** means that this heater group is inside Error
	Amb. T	Ambient temperature.
	Heater Message	Possible error messages will be displayed on the last line. For example: Err. Temp rise A
	-	

6.5.1.17 Media feed compensation menu

To perform various settings for media feed compensation

⚠ Notes ⚠

For details of the media feed compensation, refer to "Media feed compensation".



Setup items	Parameters	Description
Dist.Adj	Print1	Performs printing by media feed compensation. A correction pattern with a width of ± 0.20% (in steps of 0.10 %) is printed around the centre of the correction value currently set.
	Change	Changes the media feed compensation value. The menu changes to the Change Media Feed Correction Value menu.
	Print2	Performs printing by media feed compensation (for fine adjustment). A correction pattern with a width of ± 0.02% (in steps of 0.01%) is printed around the centre of the correction value currently set.
	-	[CANCEL] key: Shifts to the previous hierarchy menu.

6.5.1.18 Change media feed compensation value menu

Changes the media feed compensation value.

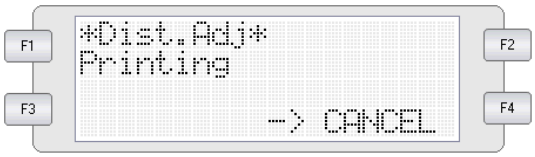
Setup items	Parameters	Description
Change	90.00%-<100.00%>-110.00%	Changes the media feed compensation value by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

⚠ Notes ⚠

There is also a possibility to adjust the step on the fly, please refer to "Operation Panel During Printing"

6.5.1.19 Printing by Media feed compensation menu

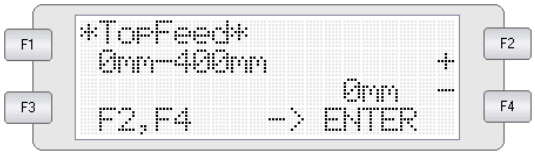
Performs printing by media feed compensation.



Setup items	Parameters	Description
Dist.Adj	Data printing	Now printing by media feed compensation. Wait for a while until printing has been finished.
	-	• [CANCEL] key: to perform following operations : • Media feed correction printing has been finished. • To eject media. • To shift to the previous hierarchy menu.

6.5.1.20 Top feed menu

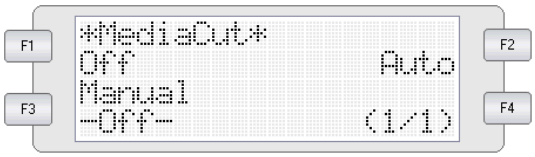
Sets the amount of media which has to be fed before the printer starts printing. Make this setting when using roll media.



Setup items	Parameters	Description
Top feed	<0mm>-400mm	To feed media at the start of printing. Set when printing on roll media. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.1.21 Media cut menu

Set media cut method after printing.



Setup items	Parameters	Description
Media cutting	Auto	After printing has been completed, the media is sent to the media cut position and is automatically cut.
	Manual	Feed media to the media cut position after printing. Use regular cutting blades available from hardware stores.
	Off	No media feed after printing.
	-	When "Auto" has been selected, proceed to the Shortest Cut Length menu. • If "Manual" or "Off" has been selected, the screen changes to the menu of the previous hierarchy.

⚠ Notes ⚠

For the situations shown below, the media cut settings are always changed to "Off" regardless the previous settings.

- When "Take-up system" or "Roll-up/roll off system" is set for the media detection settings (Media detection menu)

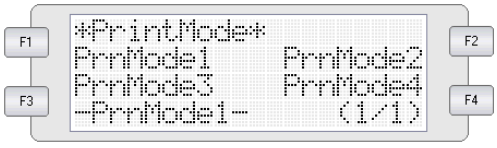
When using the media shown below, set the media cut setting to "Manual". If set to "Auto", the following errors may occur :

- Cloth material: The cloth fiber is not completely cut.
- Media with glue: Glue will adhere to the cutting blade and decreases cutting performance.

6.5.2 Setup Menu 2/7

6.5.2.1 Printing mode menu

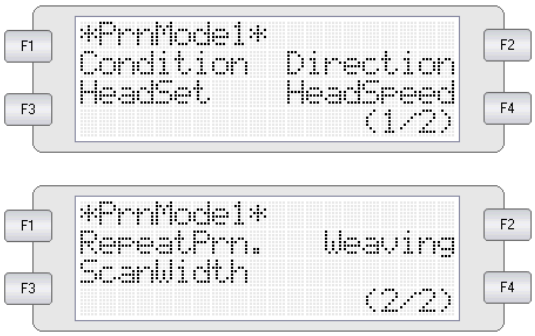
To perform various settings for Printing mode.



Setup items	Parameters	Description
Print mode setup	Print mode 1	For each setup value of Printing mode, four settings of "Printing mode 1" - "Printing mode 4" can be set.
	Print mode 2	
	Print mode 3	
	Print mode 4	
	-	[CANCEL] key: to shift to the previous hierarchy menu.

6.5.2.2 *Printing mode setup menu*

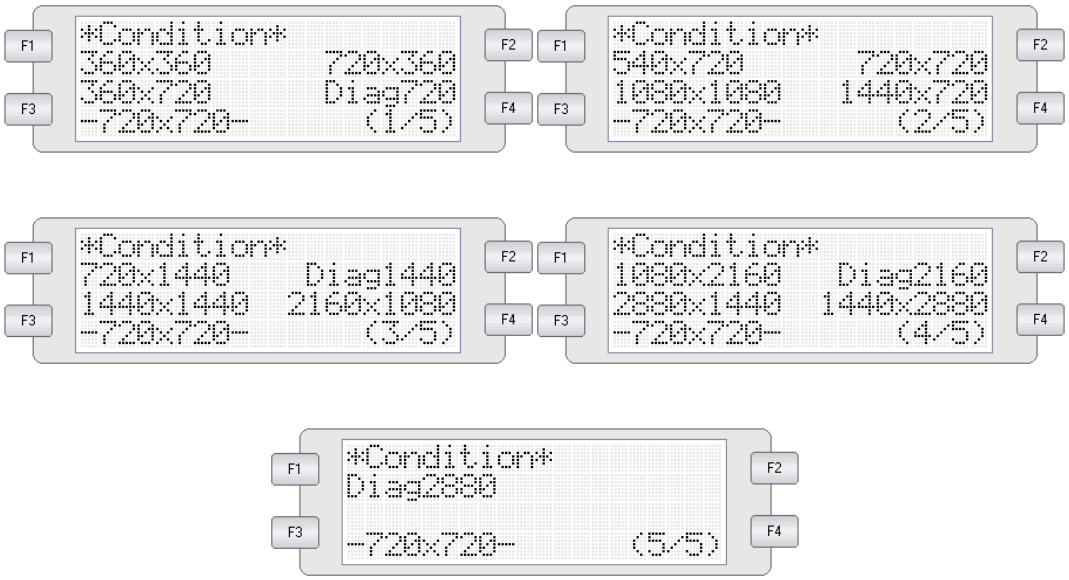
To perform various settings for printing mode.
For each setup value of printing mode, four settings of "Printing mode 1" - "Printing mode 4" can be set.



Setup items	**Parameters**	**Description**
Printing mode 1-4 (1/2)	Printing condition	To set printing quality.
	Printing direction	To set print head moving direction for printing.
	HeadSet	To set which heads are used for printing.
	Head speed	To set the head speed.
Printing mode 1-4 (2/2)	Repeat printing	To make settings for the repeat print.
	Weaving	To set which weaving pattern should be used for printing
	ScanWidth	To specify the carriage movement
Printing mode 1-4	-	[CANCEL] key: To shift to the previous hierarchy menu.

6.5.2.3 *Condition menu*

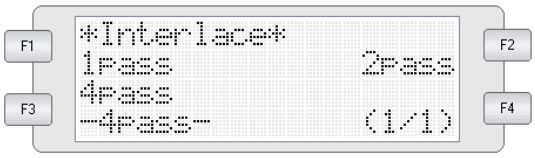
Select printing quality with consideration to applications of printing data and printing speed.



Setup items	Parameters	Description
Condition (1/5)	<360 × 360 dpi>	The display changes to interlace setup items after the print quality items settings have been finished.
	720 × 360 dpi	
	360 × 720 dpi	
	Diagonal 720 dpi	
Condition (2/5)	540 x 720 dpi	
	720 × 720 dpi	
	1080 × 1080 dpi	
	1440 × 720 dpi	
Condition (3/5)	720 × 1440 dpi	
	Diagonal 1440 dpi	
	1440 × 1440 dpi	
	2160 × 1080 dpi	
Condition (4/5)	1080 × 2160 dpi	
	Diagonal 2160 dpi	
	2880 × 1440 dpi	
	1440 × 2880 dpi	
Condition (5/5)	Diagonal 2880 dpi	
Condition (1/5 – 5/5)	-	[CANCEL] key: To shift to the previous hierarchy menu.

6.5.2.4 *InterLace Setup menu*

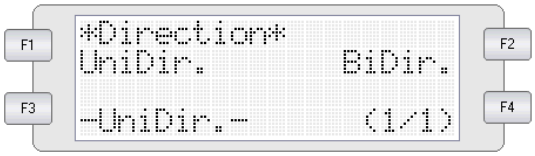
When selecting your quality (referring to the menu above) you will automatically have to set the number of passes.



Setup items	Parameters	Description
Interlace method	1 pass	Over printing is not performed.
	2 pass	Over-printing is performed twice per 1 line.
	4 pass	Over-printing is performed four times per 1 line.
	-	[CANCEL] key: To shift to the previous hierarchy menu.

6.5.2.5 *Printing direction menu*

To set print head moving direction for printing.



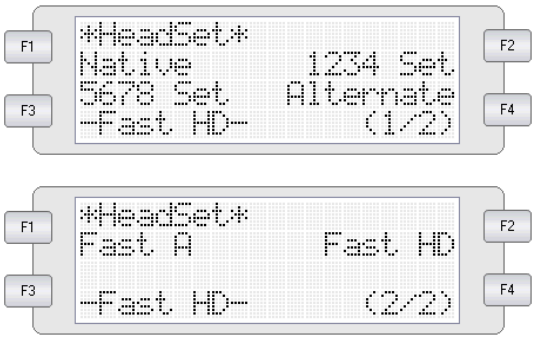
Setup items	Parameters	Description
Direction	UniDir	Prints in one direction.
	BiDir	Prints bi-directionally.
	-	[CANCEL] key: To shift to the previous hierarchy menu.

6.5.2.6 *HeadSet menu*

To select which heads should be printing.

⚠ Notes ⚠

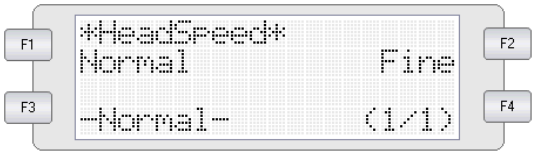
Be sure that the ink configuration is set to 4x4.
Do not forget to µ - shift your corresponding head numbers 5, 6, 7 and 8 by $^{1}/_{720}$ inch in case you use this printer mode.



Setup items	Parameters	Description
HeadSet (1/2)	Native	default printer settings for normal printing modes
	1234-set	selected print mode utilizes only the first 4 heads ⇒ 2 x 4 colour mode
	5678-set	selected print mode utilizes only the last 4 heads ⇒ 2 x 4 colour mode
	Alternate	selected print mode utilizes all heads alternated per print ⇒ 2 x 4 colour mode,>> alternated **per print** → Print 1: Heads 1234 – Print 2: Heads 5678 – Print 3: Heads 1234 – Print 4: Heads 5678 …
HeadSet (2/2)	Fast A	This menu option will allow you to use the following FAST modes. FAST 720 ► 720x720 dpi FAST 540 ► 540x720 dpi
	FAST HD	This menu option will allow you to use the following FAST modes. FAST 360 ► 360x360 dpi
HeadSet (1/2-2/2)	-	[CANCEL] key: To shift to the previous hierarchy menu.

6.5.2.7 *Head speed menu*

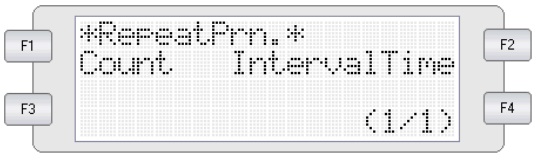
To set the head speed



Setup items	Parameters	Description
HeadSpeed	Normal	To print at normal speed
	Fine	To print at half speed.
	-	[CANCEL] key: To shift to the previous hierarchy menu.

6.5.2.8 *Repeat printing menu*

To make settings for repeat printing



Setup items	Parameters	Description
Repeat	Count	To set the number of repeats per line of printing.
	Interval Time	To set interval time for the repeat print.
	-	[CANCEL] key: To shift to the previous hierarchy menu.

6.5.2.9 *Count menu*

To set the number of repeats per line of printing.

Setup items	Parameters	Description
Times	<Once> to 99 times	To change repeat times by operating the following keys: • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.2.10 *Interval time menu*

To set interval time for the repeat print.

Setup items	Parameters	Description
Interval	<0.0 sec.> to 0.1 to 5.0 sec.	To change interval time by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.2.11 Weaving menu – i²

Thanks to MUTOH's revolutionary i² technology, it is possible to obtain impeccable printing quality even for the most difficult images.

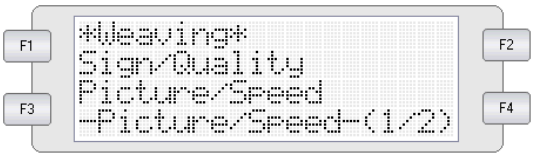
Nevertheless, for less critical files, acceptable printing quality can be obtained with straight line printing at higher speeds (a maximum of 81 m²/h).

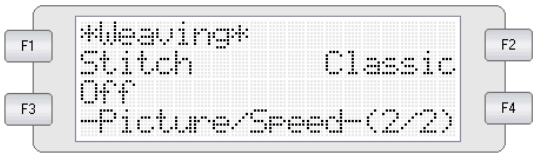
Applicability of higher modes needs to be judged on individual basis.

Also thanks to i², annoying printing artefacts as shown below are solved.

⚠ Notes ⚠

Please refer to the in-the-box document to know everything about the new i² technology.
"How to obtain impeccable printing quality with Mutoh's i² technology"





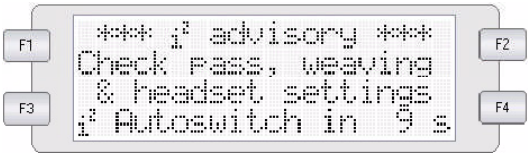
Setup items	Parameters	Description
Weaving (1/2)	Sign / Quality	Please refer to the explanations below to know which weaving form to use. It is highly recommend to use the i² features, namely Sign/Quality or Picture/Speed
	Picture / Speed	
Weaving (2/2)	Stitch	
	Classic	
	Off	
Weaving (1/2 – 2/2)	-	[CANCEL] key: To shift to the previous hierarchy menu.

6.5.2.12 i² print mode advisory

Intelligent interweaving parameters have been determined for a specific set of printmodes. If you select other printmodes with i² enabled, the printer will automatically switch to an appropriate i² printmode.

If this happens a warning will appear on the printer panel before printing starts (10 seconds).

When pressing a key, printing will start immediately.



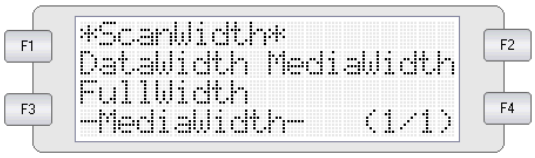
Please find below a table with the supported weaving modes.

V = supported
X = above message will be shown. the chosen printmode combination is not recommended
S = auto switch to another appropriate i² mode

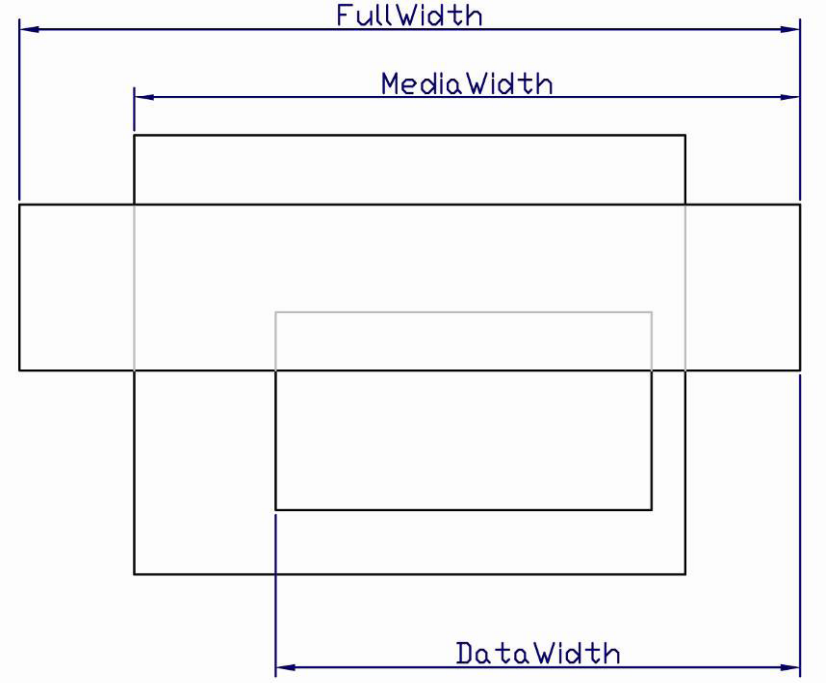
Resolution	HeadSet	Passes	OFF	Stitching	Picture	Sign
360x360	Native	1 pass 2 pass 4 pass	V V V	S > OFF-1p S > OFF-2p S > OFF-4p	V V V	V V V
	Fast	1 pass 2 pass 4 pass	X X X	V S > PICT-2p S > SIGN-2p	S > PICT-2p V S > SIGN-2p	S > SIGN-2p V S > SIGN-2p
	FastHD	1 pass 2 pass 4 pass	S > FAST S > FAST S > FAST	S > FAST S > FAST S > FAST	S > PICT-4p S > PICT-4p V	S > PICT-4p S > PICT-4p V
720x360	Native	2 pass 4 pass	V V	S > OFF-2p S > OFF-4p	V V	V V
720x720	Native	2 pass 4 pass	V V	V S > OFF-4p	V V	V V
	Fast	2 pass 4 pass	X X	S > OFF S > OFF-4p	V V	V V
540x720	Native	2 pass 4 pass	V V	V S > OFF-4p	V V	V V
	Fast	2 pass 4 pass	X X	S > OFF-2p S > OFF-4p	V V	V V

6.5.2.13 ScanWidth

It is possible to specify the carriage movement along the media – printed area. This will have a direct effect on the drying time!! Please find more details below.



Setup items	Parameters	Description	Drying time
ScanWidth	DataWidth	Carriage moves only over the printing area	Short
	MediaWidth	Carriage moves over the media	Depending on MediaWidth
	FullWidth	Carriage moves over the full width	Long



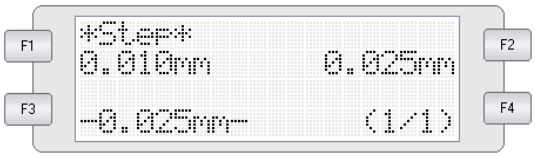
6.5.2.14 Command setup menu

To perform various settings for printer commands.

Setup items	Parameters	Description
Command setup (1/1)	Step	To set the units for amount of movement for printing.
	Resolution	Makes settings for image resolution while printing with image data.
	OnlineTimer	Makes settings for the time between the end of receiving printing data from a computer and recognizing the end of printing data.
Command setup (1/1)	-	[CANCEL] key: to shift to the previous hierarchy menu.

6.5.2.15 Print step menu

To set the units for amount of movement for printing.



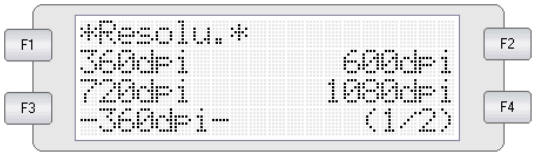
Setup items	Parameters	Description
Print step	<0.010mm>	To set the printing units to 0.010mm.
	<0.025mm>	To set the printing units to 0.025mm.
	-	To shift to the previous hierarchy menu.

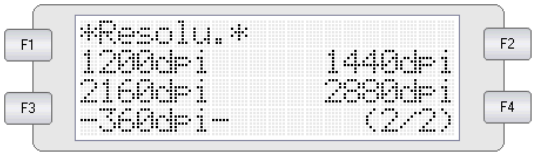
⚠ Notes ⚠

Please note that some software packages use the "step per mm" terminology, in which case a program step of 0.025 mm corresponds with 40 steps per mm and a program step of 0.010 mm with 100 steps per mm.

6.5.2.16 Image resolution menu

To set resolution for image data for printing.

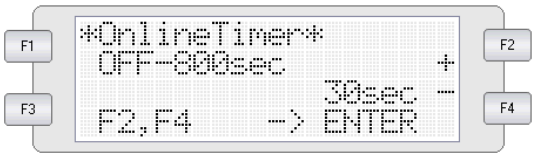




Setup items	Parameters	Description
Image resolution (1/2)	<360dpi>	Makes settings for image resolution while printing with image data.
	600dpi	
	720dpi	
	1080dpi	
Image resolution (2/2)	1200dpi	
	1440dpi	
	2160dpi	
	2880dpi	
Image resolution (1/2-2/2)	-	To shift to the previous hierarchy menu.

6.5.2.17 Online time out menu

To set time from the moment of receiving termination of printing data sent by computer to the recognition of end of printing data.



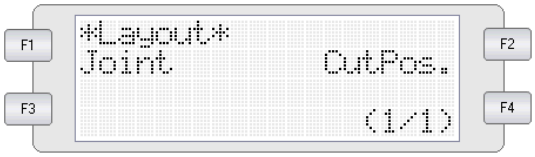
Setup items	Parameters	Description
OnlineTimer	OFF/2sec. - <30sec.> -800sec.	To change the Online time out time by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.2.18 Layout setup menu

Makes various settings on layout function.

⚠ Notes ⚠

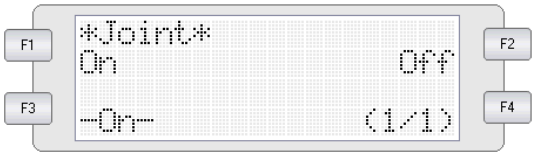
The layout function automatically determines the size of printing data sent from the computer, and then determines the amount of roll media required without wasting media.
If sheet media has been loaded, the layout function is disabled.



Setup items	Parameters	Description
Layout	Joint	Makes settings for stitching print.
	CtPos	To set the media cutting position after printing has been completed.
	-	[CANCEL] key: To shift to the previous hierarchy menu.

6.5.2.19 Joint printing menu

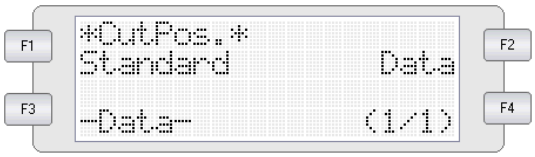
To set joint printing.



Setup items	Parameters	Description
Joint	<Off>	Does not perform stitch printing
	On	Performs stitch printing
	-	- Shifts to the previous hierarchy menu.

6.5.2.20 Cutting position Menu

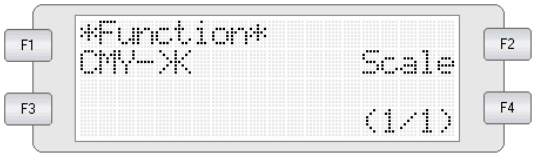
To set the media cutting position after printing has been finished.



Setup items	Parameters	Description
Cutting position	Standard	To cut the media to fit the media width, so that it meets the regulated size.
	<Data>	To cut the media according to the size of the printing data.
	-	- Shifts to the previous hierarchy menu.

6.5.2.21 Function setup menu

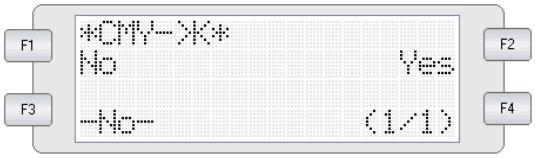
To perform various settings for processing of printing data.



Setup items	Parameters	Description
Function setup	CMY→K	Makes settings for printing method to present black.
	Scale	Sets the enlargement and reduction ratios for printing data.
	-	• [CANCEL] key: Shifts to the previous hierarchy menu.

6.5.2.22 CMY → K menu

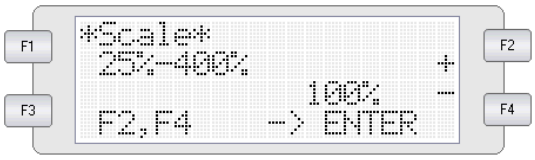
To set how to draw black.



Setup items	Parameters	Description
CMY→K	<No>	• If MH-GL, GL2 are set on the Command Settings menu, be sure to use CMY (mixed colours) ink. • If RTL-PASS is set, use both CMY (mixed colours) ink and K (black) ink.
	Yes	Always use K (black) ink.
	-	To shift to the previous hierarchy menu.

6.5.2.23 Scale menu

To set the enlargement and reduction ratios for printing data.

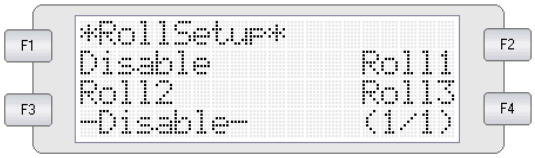


Setup items	Parameters	Description
Scale	25% - <100%> - 400%	Use the following keys to change enlargement and reduction ratios. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.3 Setup Menu 3/7

6.5.3.1 Roll setup menu

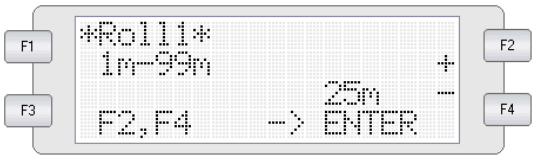
To perform various settings for roll media.



Setup items	Parameters	Description
Roll setup	Disable	Set this when roll media setup is not used.
	Roll media 1	For each setup value of roll media, 3 settings of "Roll media 1" - "Roll media 3" can be set.
	Roll media 2	
	Roll media 3	
	-	• [CANCEL] key: To shift to the previous hierarchy menu.

6.5.3.2 *Roll media length menu*

To set roll media length.



Setup items	Parameters	Description
Roll media 1-4	1 m to <30 m>to 99 m	To change roll media length by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.3.3 *Centronics menu*

To set communication mode to Centronics interface.

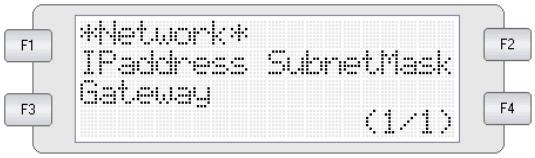
Setup items	Parameters	Description
Centronics	Centronics	To set communication mode to Centronics mode.
	<Bi Centro>	To set communication mode to Bi-Centronics mode.
	-	To shift to the previous hierarchy menu.

6.5.3.4 *Network setting menu*

To make the settings for the network interface.

⚠ Notes ⚠

The Network Settings menu is displayed if the network interface board has been installed. Be sure to consult the network administrator before making the settings in the Network Settings menu.



Setup items	Parameters	Description
Network (1/1)	IP address	To set the IP address of the product.
	Subnet mask	To set the subnet mask of the product.
	Gateway	To set the IP address of the connected gateway.
Network (1/1)	-	•[CANCEL] key: To shift to the previous hierarchy menu.

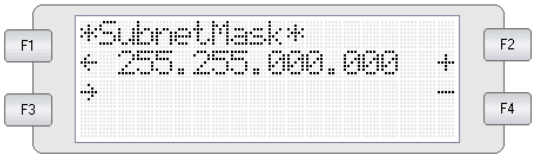
6.5.3.5 *IP address menu*

To set the IP address of the product.

Setup items	Parameters	Description
IP address	<000.000.000.000>-223.255.255.254	Use the following keys to change the IP address. • [F1] key: Moves one digit to the left on the setting value to be changed • [F2] key: Increases the setting value. • [F3] key: Moves to the right on the setting value. • [F4] key: Reduces the setting value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.3.6 *Subnet mask menu*

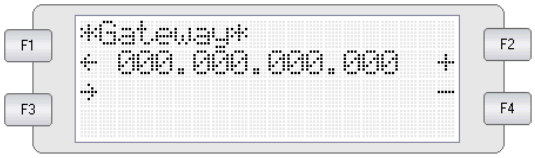
Set the subnet mask of the product.



Setup items	Parameters	Description
Subnet mask	000.000.000.000 - <255.255.255.000> - 255.255.255.255	Use the following keys to change the Subnet Mask. • [F1] key: Moves one digit to the left on the setting value to be changed. • [F2] key: Increases the setting value. • [F3] key: Moves to the right on the setting value. • [F4] key: Reduces the setting value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.3.7 *Gateway menu*

The product sets the IP address of the connected gateway.

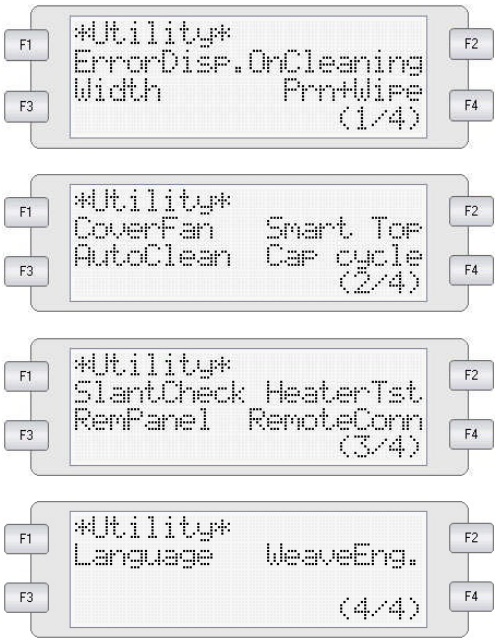


Setup items	Parameters	Description
Gateway	<000.000.000.000> - 223.255.255.254	Use the following keys to change the IP address. • [F1] key: Moves one digit to the left on the setting value to be changed. • [F2] key: Increases the setting value. • [F3] key: Moves to the right on the setting value. • [F4] key: Reduces the setting value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.4 Setup Menu 4/7

6.5.4.1 Utility menu

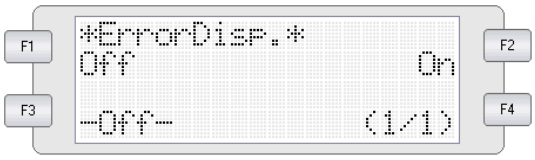
To perform various settings for application functions of products.



Setup items	Parameters	Description
Utility (1/4)	ErrorDisplay	To set display method to the operation panel when minor error occurred.
	Power on cleaning	Cleaning should be performed automatically when the power is switched on.
	Media width	If media detection is not performed for initial media, to set the width of the media in the tray.
	Print and Wipe	To wipe while printing, to take care of possible condensation on the print head nozzle plate.
Utility (2/4)	Cover Fan	To (de)activate the fans in the top cover.
	SmartTop	The ideal temperature of the media is near to the preheater. This area of paper is fed before a print starts to obtain perfect quality3
	Auto Cleaning	Performs cleaning cycle while printer is idle at the set temperature.
	CapCycle	Repeat a TubingFlush after a number of hours
Utility (3/4)	SlantCheck	To perform a slant check after each printer or not
	HeaterTest	To test all heaters (A, B, C and D)
	RemPanel	Accept or decline remote control (for future use only)
	Remote connection	For future use only.
Utility (4/4)	Language	For future use only.
	Weave Engine	Because of the different ink - media behaviour and the different media compatibility, a specific i² weaving engine is available for the MS Ultra inks.
Utility (1/4 – 4/4)	-	• [CANCEL] key: To shift to the previous hierarchy menu.

6.5.4.2 *ErrorDisplay menu*

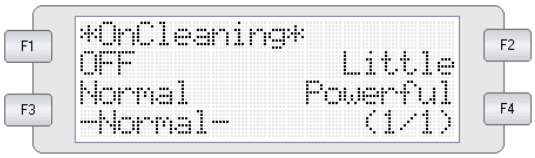
To set display method to the operation panel when minor error occurred.



Setup items	Parameters	Description
ErrorDisplay	<Off>	No ErrorDisplay.
	On	To perform ErrorDisplay.
	-	To shift to the previous hierarchy menu.

6.5.4.3 *Power on cleaning menu*

When cleaning should be performed automatically with the power is switched on.



Setup items	Parameters	Description
Power on cleaning	<Off>	Power on cleaning is not performed.
	Little	Power on cleaning is performed.
	Normal	
	Powerful	
	-	To shift to the previous hierarchy menu.

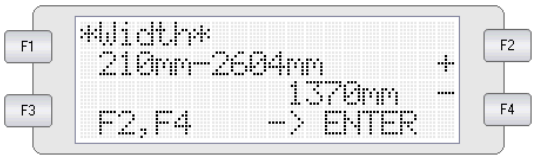
6.5.4.4 *Media width menu*

If media detection has not been performed during initialization, the width of the media is set here.

It can be set in the following ranges:
• 100" model: 210mm-2604mm

⚠ Notes ⚠

On the media width menu,
If a value larger than the width of the media has been set, media or the product may be contaminated by the ink during printing.
If a value smaller than the width of the set media has been set, media may not be cut correctly.



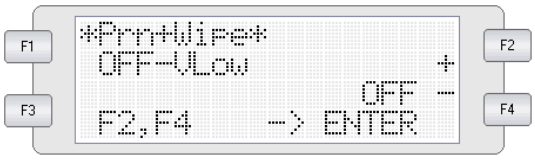
Setup items	Parameters	Description
media width	• 100" model: 210mm - <841mm> - 2604mm	To change media width by operating the following keys. • [F2] key: to increase the setup value. • [F4] key: to decrease the setup value. • [ENTER] key: to confirm the setup value • [CANCEL] key: to cancel the setup value

6.5.4.5 *Print and wipe menu*

Please note that print + wipe should be used very carefully and is by default not recommended in combination with Mild Solvent Ink.

If you choose to recommend a user to use the print + wipe function, please also stress that the operator needs to take extra care to keep the wipers clean.

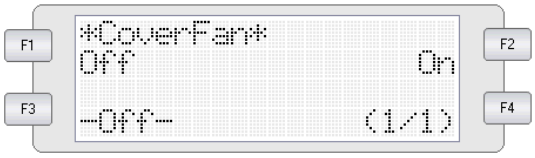
Carrying out wiping with wipers that are covered with a layer of ink that is dried out may cause permanent head damage.



Setup items	Parameters	Description
Print and Wipe	OFF	No wiping during printing
	High	After printing 10 passes, wiping cycle will be performed.
	Middle	After printing 16 passes, wiping cycle will be performed.
	Low	After printing 22 passes, wiping cycle will be performed.
	Very Low	After printing 30 passes, wiping cycle will be performed.
	-	• [CANCEL] key: To shift to the previous hierarchy menu.

6.5.4.6 *Cover Fan Menu*

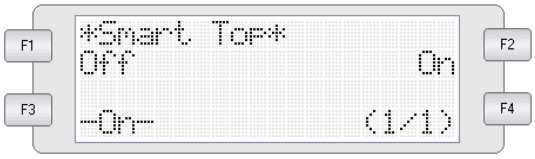
To activate or de-activate the cover fans. When an APS system has been installed, the cover fans will have no function anymore and we recommend switching them OFF.



Setup items	Parameters	Description
Cap Cycle	OFF	Cover fans are OFF
	On	Cover fans are On
	-	• [CANCEL] key: To shift to the previous hierarchy menu.

6.5.4.7 *Smart Top Menu*

This feature will take care of a feed of 5 centimetres before every print. This to start printing on media which is heated by the heater.



Setup items	Parameters	Description
Smart Top	Off	No media feed of 5 centimetres
	ON	A media feed of 5 centimetres
	-	• [CANCEL] key: to shift to the previous hierarchy menu.

6.5.4.8 *Auto Cleaning Menu*

Printer performs an automatic cleaning before or during printing. Or during an idle period of at least 1 hour.

Setup items	Parameters	Description
Auto Clean	Waiting	To perform a little, normal, powerful cleaning while printer is idle for 1, 2, 3, 4, 5, 6, 9, 12, 18, 24 hours.
	Printing	To perform a little, normal, powerful cleaning after 5, 10, 15, 20, 30, 45, 60, 90, 120, 150,180 minutes of printing.
	Before Printing	To perform a little, normal, powerful a cleaning before every job
	-	• [CANCEL] key: to shift to the previous hierarchy menu.

6.5.4.9 Cap Cycle menu

Perform a tubing flush every 1 to 24 hours.

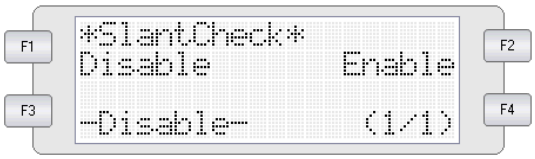
⚠ Notes ⚠

A tubing flush is automatically performed after 10 minutes of idle and before shutting down the printer.

Setup items	Parameters	Description
Cap Cycle	OFF	No tubing flush will be performed
	1 – 24 hours	Every 1 – 24 hours (adjustable) a tubing flush is performed.
	-	• [CANCEL] key: To shift to the previous hierarchy menu.

6.5.4.10 SlantCheck menu

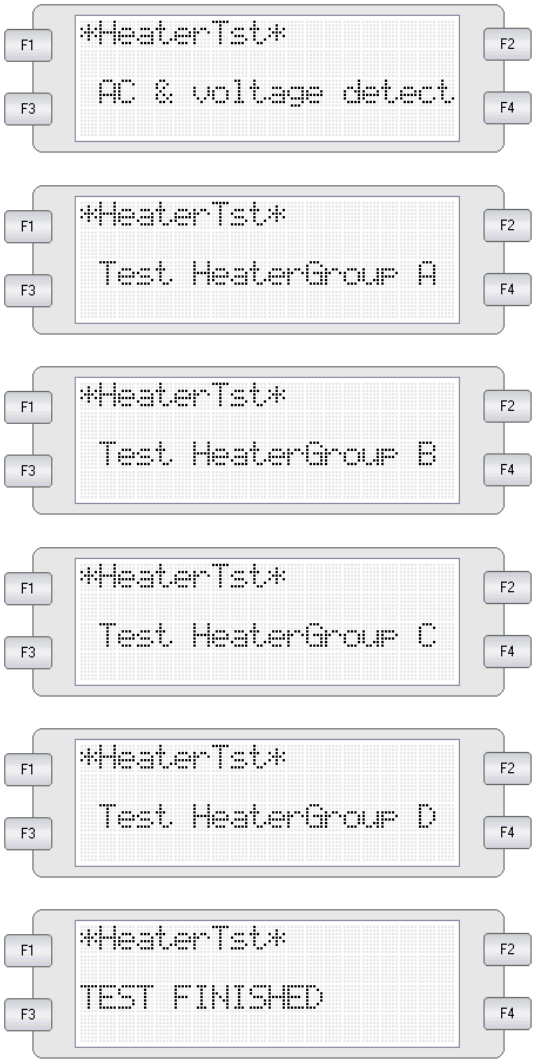
It is possible to perform a slant check after every print. The head will measure where the media is positioned before and after the print. When the position varies too much, a Slant error will appear. This because this can affect the print quality, the winding precision and can cause head crashes.



Setup items	Parameters	Description
SlantCheck	Disable	Disable slant check function
	Enable	Enable slant check function
	-	• [CANCEL] key: To shift to the previous hierarchy menu.

6.5.4.11 HeaterTest menu

When there is a slight suspicion that one of the heaters is broken, it is possible to perform a heater test. This will warm up all heaters one-by-one to its default temperature. When the message " TEST FINISHED" appears, there are no problems.



6.5.4.12 RemPanel

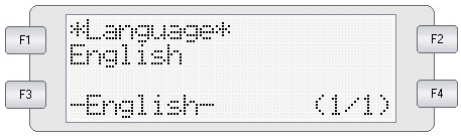
With this function it is possible to enable or disable remote control. This feature is for future use only! Leave this setting to its default value, OFF!

6.5.4.13 RemConn

With this function it is possible to view to if you are virtually connected. This feature is for future use only!

6.5.4.14 Language

With this function it is possible to change the language of the user interface. Currently, only English is available.



6.5.4.15 Weave engine

Because of the different ink - media behaviour and the different media compatibility, a specific i² weaving engine was developed for the MS Ultra inks. Please make sure to select the correct ink type to make sure that the corresponding weaving engine is active. Specifically when printing in FAST540 mode, SIGN 2P or PICTURE 2P, the difference will be very obvious.

Setup items	**Parameters**	**Description**
Weave Engine	EcoUltra	Select this weave engine when working with Eco Ultra ink
	MS Ultra	Select this weave engine when working with MS Ultra ink
	-	• [CANCEL] key: To shift to the previous hierarchy menu.

6.5.4.16 File management setup menu

Makes various settings for the processing method of the printing data sent from computer to the installed hard disk in the printer.

⚠ Notes ⚠

The items on the File Management menu are displayed if a hard disk has been installed.

Setup items	Parameters	Description
File management (1/2)	Write mode	To set writing method of printing data to the hard disk and printing method.
	Re-print	Set this when you want to draw the printing data saved on the hard disk.
	Delete	Set this when deleting the printing data saved on the hard disk.
	Re-name	To change file name of the printing data saved on the hard disk.
File management (2/2)	Format	To perform formatting of hard disk.
File management (1/2-2/2)	-	• [CANCEL] key: To shift to the previous hierarchy menu.

6.5.4.17 Write mode menu

To set writing method of printing data to the hard disk and printing method.

⚠ Notes ⚠

Write mode menu has been displayed if a hard disk has been installed on the product.
When writing printing data to the hard disk, be sure to set media in the tray.
The printing data is sized to fit the media.
If there is no media in the tray, the printing data cannot be written.

Setup items	Parameters	Description
Writing	<Off>	No writing to the hard disk. Performs printing immediately.
	Writing/Printing	Prints while writing the data to the hard disk.
	Printing after writing	Prints after writing the data to the hard disk.
	Writing only	Writes the data to the hard disk without printing. **⚠ Notes ⚠** **Printing method can be set for printing data saved in the hard disk by Re-print menu.**
	-	To shift to the previous hierarchy menu.

6.5.4.18 Re-print menu

Set following items when you want to draw printing data saved on the hard disk.
• File name
• Printing media number

⚠ Notes ⚠

Re-print menu is displayed if a hard disk has been installed in the product.
When Reprinting the printing data,
Use media of the same size as the printing data.
The size of the printing data will be the same as the initial paper size, even if paper of a different size has been set, the printing will start from the same printing start position.
Use a cassette with the same colour and type of ink that will be used during the printing data write.

Setup items	Parameters	Description
Re-print	File name	To select file name to be printed by operating the following keys. • [F1] key: to select file name with back feed way. • [F3] key: to select file name with forward feed way.
	Number: 0 to 99	To change printing media number by operating the following keys. • [F2] key: Increases the setup value. • [F4] key: Decreases the setup value.
	-	[ENTER] key: • To confirm setup value. • Product starts printing. • After printing, to shift to normal condition. [CANCEL] key: Cancels the setup value, shifts to the previous hierarchy menu.

6.5.4.19 File delete menu

Set this when you delete printing data saved on the hard disk.

⚠ Notes ⚠

File delete menu is displayed if a hard disk has been installed.
If you delete a file by the File delete menu, you cannot retrieve that file again.
If you want to use the deleted file again, send the printing data to the hard disk again. Re-print menu is displayed if a hard disk has been installed.

Setup items	Parameters	Description
Delete	File name	To select to-be-deleted file name by operating the following keys. [F1] key: To select file name with back feed way. [F3] key: To select file name with forward feed way. [ENTER] key: Deletes selected file [CANCEL] key: To cancel

6.5.4.20 Re-name menu

To change file name of printing data saved on the hard disk.

⚠ Notes ⚠

Re-name menu is displayed if a hard disk has been installed
The file name of printing data sent from the computer is always set to "TEMPFILE000".
To save transmitted image data, change the file name to a name of your choice in the Rename folder before transmitting the next printing data.

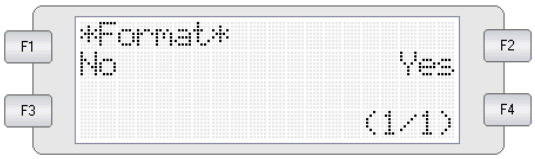
Setup items	Parameters	Description
To-be-changed file name	Characters you want to change	To select characters you want to change by operating the following keys. [F1] key: To select characters you want to change with back feed way. [F3] key: To select characters you want to change with forward feed way.
	Characters you can use are : A-Z or 0-9	To select to-be-changed characters by operating following keys. [F2] key: Selects to-be-changed characters with back feed way. [F4] key: Selects to-be-changed characters with forward feed way.
	-	[ENTER] key: Confirms setup value, shifts to the previous hierarchy menu. [CANCEL] key: Cancels setup value, shifts to the previous hierarchy menu.

6.5.4.21 Format menu

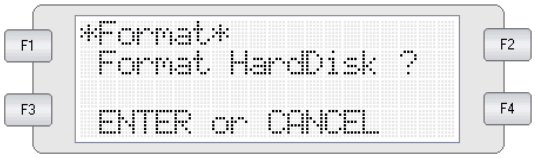
To perform formatting of the hard disk.

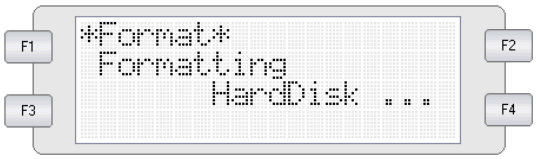
⚠ Notes ⚠

Format menu is displayed if a hard disk has been installed.
If formatting of the hard disk has been performed, all data saved on the hard disk will be deleted.



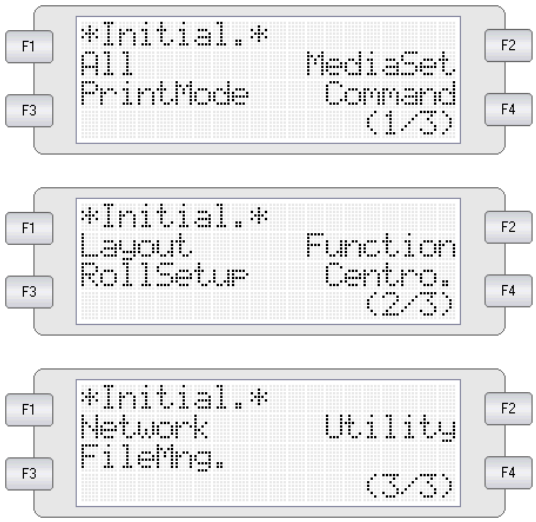
Setup items	Parameters	Description
Format	No	Format has not been performed.
	Yes	To perform formatting.
	-	[CANCEL] key: Cancels setup value, shifts to the previous hierarchy menu.



Setup items	Parameters	Description
Format	Format will be performed. OK?	•[ENTER] key: • Product starts formatting. •The following messages are displayed.  • After formatting, to shift to the previous hierarchy menu.
		• [CANCEL] key • Formatting will be aborted • To shift to the previous hierarchy menu.

6.5.4.22 Initialize setup menu

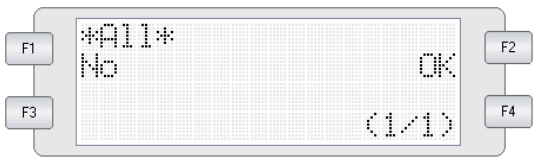
Returns parameters to the factory settings.



Setup items	Parameters	Description
Initialize (1/3)	All	Returns all parameters to the factory setting.
	MediaSet	Returns parameters in the media setup menu to the factory setting.
	PrintMode	Returns parameters in the print mode menu to the factory setting.
	Command	Returns parameters in the command setup menu to the factory setting.
Initialize (2/3)	Layout	Returns parameters in the layout setup menu to the factory setting.
	Function	Returns parameters in the function setup menu to the factory setting.
	Roll Setup	Returns parameters in the roll media setup menu to the factory setting.
	Centro Interface	Returns parameters in the Centronics setup menu to the factory setting.
Initialize (3/3)	Network	Returns parameters in the network setup menu to the factory setting.
	Utility	Returns parameters in the utility setup menu to the factory setting.
	File management	The file management setup menu values are reset to factory default settings.
Initialize (1/3-3/3)	-	• [CANCEL] key: Shifts to the previous hierarchy menu.

6.5.4.23 All Initialize menu

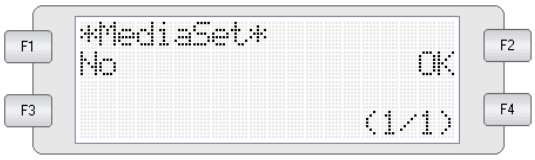
All setup values are set to the factory default settings.



Setup items	Parameters	Description
All Initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.4.24 Media setup Initialize menu

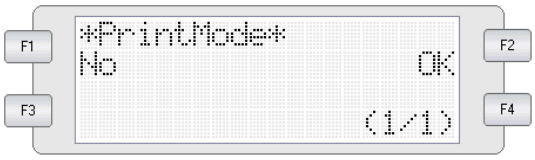
Setup values of Media setup menu are set to the factory default settings.



Setup items	Parameters	Description
Media setup Initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.4.25 Printing mode initialize menu

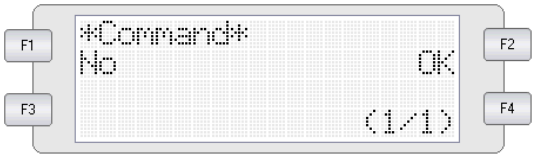
Setup values of printing mode menu are set to the factory default settings.



Setup items	Parameters	Description
Printing mode initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.4.26 Command setup Initialize menu

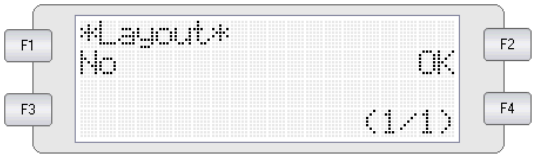
Setup values of Command Setup menu are set to the factory default settings.



Setup items	Parameters	Description
Command setup Initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.4.27 Layout Setup Initialize menu

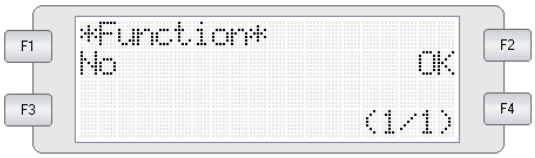
Setup values of Layout Setup menu are set to the factory default settings.



Setup items	Parameters	Description
Layout Setup Initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.4.28 Function setup Initialize menu

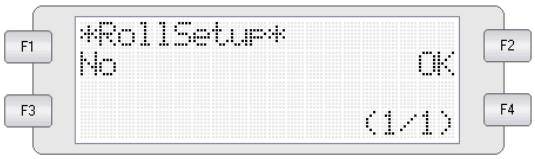
Setup values of Function setup menu are set to the factory default settings.



Setup items	Parameters	Description
Function setup Initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.4.29 Roll media setup Initialize menu

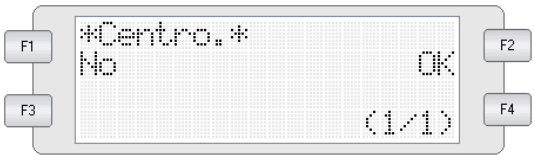
Setup values of Roll Media setup menu are set to the factory default settings.



Setup items	Parameters	Description
Roll media setup Initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.4.30 Centronics Initialize menu

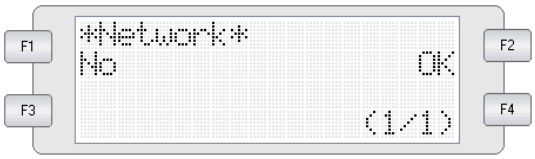
Setup values of Centronics menu are set to the factory default settings.



Setup items	Parameters	Description
Centronics Initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.4.31 Network Initialize menu

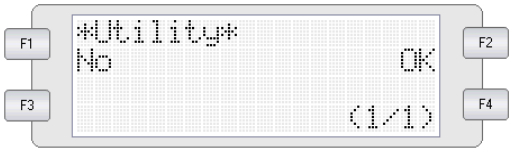
Setup values of Network menu are set to the factory default settings.



Setup items	Parameters	Description
Network initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.4.32 Utility Initialize menu

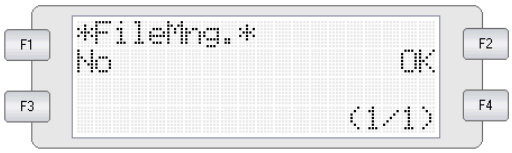
Setup values of Utility menu are set to the factory default settings.



Setup items	Parameters	Description
Utility initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.4.33 File management Initialize menu

Setup values of File management menu are set to the factory default settings.

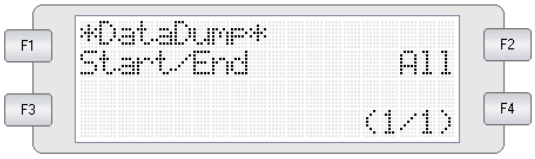


Setup items	Parameters	Description
File management initialize	<NO>	No initialization.
	OK	To perform initialization.
	-	After setting, to shift to the previous hierarchy menu.

6.5.5 Setup Menu 5/7

6.5.5.1 Data dump menu

To perform dump printing for online function check.



Setup items	Parameters	Description
Data Dump	Start/End	⚠ **Notes** ⚠ **Dump printing is used by service persons to check the functions of the printer. Do not use this function for normal printing.**
	All	
	-	•[CANCEL] key: • To exit Dump Mode. • To shift to the previous hierarchy menu.

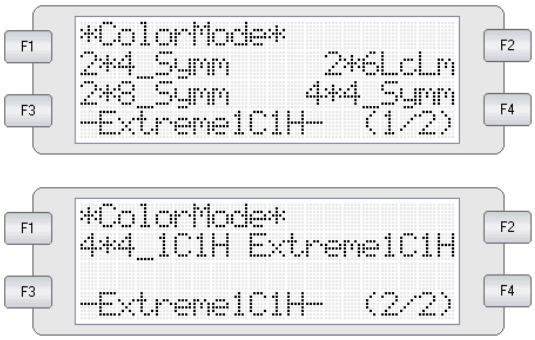
6.5.5.2 *Ink Manager menu*

To set ink supply, kind of ink, colour mode and to have the ability to charge or discharge every head separately.

Setup items	**Parameters**	**Description**
Ink Manager (1/2)	Color Mode	To select the color mode (CMYK or CMYKLcLm)
	Ink Kind	What kind of ink has been loaded?
	Charge / Discharge	Choose which head to charge / discharge.
	ChipMgr	Enable or disable the chip manager
Ink Manager (2/2)	InkSupply	Choose between cartridge or BIS system
Initialize (1/2-2/2)	-	• [CANCEL] key: shifts to the previous hierarchy menu.

6.5.5.3 *Colour Mode menu*

To select the colour mode



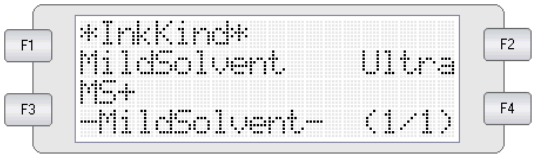
Setup items	Parameters	Description
ColorMode (1/2)	2x4_Symm	Ink configuration 2x4
	6LcLm	Ink configuration 6LcLm
	2x8_Symm	For future use only
	4x4_Symm	Ink configuration 4x4 (*)
ColorMode (2/2)	4x4_1C1H	For future use only
	Extreme1C1H	Ink configuration 4x4 (*) ► **RECOMMENDED INK CONFIGURATION**
ColorMode (1/2-2/2)	-	• [CANCEL] key: shifts to the previous hierarchy menu.

(*) do not forget to let head 5 to 8 be shifted down 1/720 inch according to head 1 to 4 which is default when the printer leaves the company

Extreme1C1H	K	K	Y	Y	C	C	M	M	M	M	C	C	Y	Y	K	K
2*4_Symm	K	Y	C	M	M	C	Y	K	Cl	Cl	Cl	Cl	Cl	Cl	Cl	Cl
6LcLm	K	Lm	C	Lc	Cl	M	Cl	Y	Y	Cl	M	Cl	Lc	C	Lm	K
2*8_Symm	For future use only															
4*4_Symm	K	Y	C	M	M	C	Y	K	K	Y	C	M	M	C	Y	K
4*4_1C1H	For future use only															

6.5.5.4 *Ink Kind menu*

To select what kind of ink is loaded.



Setup items	Parameters	Description
Ink Kind	Mild Solvent	When using Spitfire Mild Solvent Inks
	Ultra	When using Eco-Solvent Ultra inks
	MS+	When using Spitfire Mild Solvent Plus Inks
	-	• [CANCEL] key: shifts to the previous hierarchy menu.

6.5.5.5 Charge / Discharge Menu

This function gives the ability to charge or discharge every head separately or at once.

You will need these functions to perform a long store or to change your ink configuration.
Discharge: Remove ink out of the tubings or create an air bubble to push out the ink.
Charge: Loading of ink or cleaning liquid.

Setup items	Parameters	Description
Charge/ Discharge	Select Head	(De)Select head determined with F2 key.
	ALL, 1, 2, 3, 4, 5, 6, 7 ,8	Choose between head 1, 2, 3, 4, 5, 6, 7, 8 or ALL heads.
	Charge / Discharge	Choose between discharge or charge
	START / STOP	Start or stop the (dis)charge procedure.
	- x x x x x x x x -	Heads selected.
	-	• [CANCEL] key: shifts to the previous hierarchy menu. Refer to 'Setup menus'

1. Discharge function

This function can be used to remove all ink or cleaning liquid out of the tubes of the printer. A discharge of 3 minutes should be enough.

When changing from ink to cleaning liquid or in the opposite way, or change from ink configuration, it is not necessary to discharge **all** the ink out of the tubes. A discharge of 15 seconds should be enough to create an air bubble which will push out the remaining ink in the tubes. Please refer to the charge menu to perform an ink or cleaning charge.

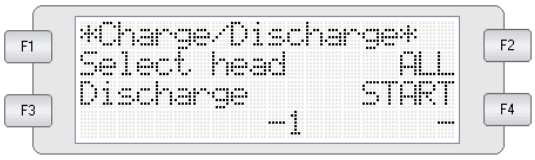
Please follow the procedure below to discharge head 1, 2, 3, 4, 5, 6, 7, 8 or ALL heads.

Step 1 : Go the Ink Manager Menu > Charge/Discharge

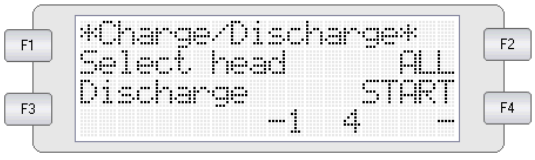
Step 2 : Select the head which should be discharged and remove corresponding cassettes.

For example, head 1, 4 and 7.

Select head 1, 4 and 7



Browse to head 1 with [F2] key. Select head 1 by pressing the [F1] key.



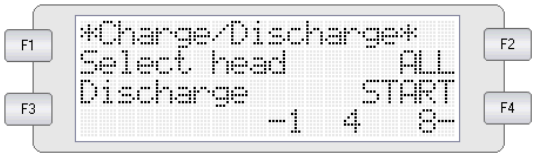
Browse to head 4 with [F2] key. Select head 4 by pressing the [F1] key.

Browse to head 7 with [F2] key. Select head 7 by pressing the [F1] key.

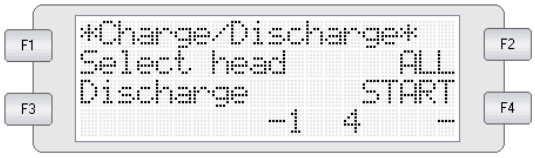
⚠ Notes ⚠

In case you have selected the wrong head, select the head again. The head number will disappear from the list.

Current Selection (Head 1,4 and 8)



Deselect head 8 by pressing the F1 key again.



Press the [F3] button until "Discharge" is displayed

Remove cassette 1, 2, 7, 8, 13, 14

⚠ Notes ⚠

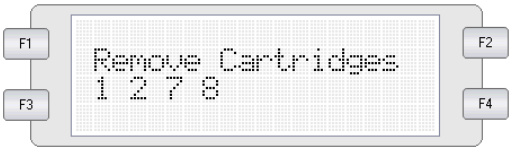
Please refer to the table below to be sure the correct cassettes are pulled out.
Most left cassette is cassette number 1.

	Head 1		Head 2		Head 3		Head 4		Head 5		Head 6		Head 7		Head 8	
Cassette	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

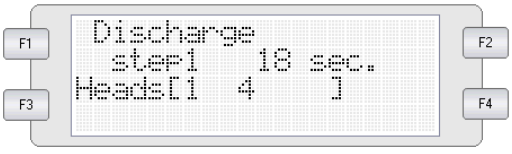
Press the [F4] key to proceed to the next display.
Following message will appear

Change the discharge (pump) time with the F2 or F4 key. Confirm with the ENTER key.

Remove the ink cassettes displayed.



The discharge will start. An air bubble will be created in the tubings.
Following message will appear:



⚠ Notes ⚠

Please be sure to leave the cover closed while charging.

The printer will go back to its status screen after the discharge has been done.

2. Charge function.

2.1. Start Charging

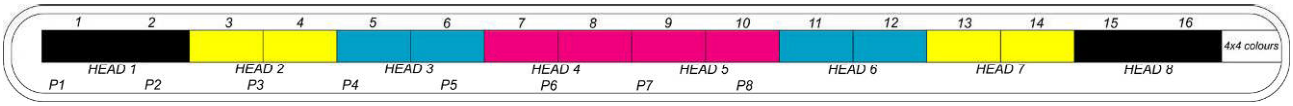
To load ink or cleaning liquid a charge of ink is needed.

⚠ Notes ⚠

Always perform a discharge of 15 seconds before loading ink into your machine. Please refer to the chapter above or to "Installing Spitfire Mild Solvent Ink cassettes".

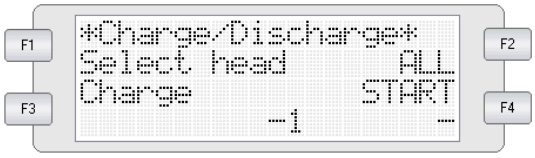
Please follow the steps below to load ink or cleaning liquid into your machine.

Step 1 : Insert the cassettes into the slots according to table below.

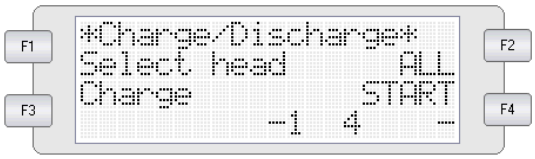


OR
Insert in all slots Spitfire Mild Solvent cleaning cassettes to perform a Long Store when you want to ship the machine or leave the printer unused for more than 5 days.

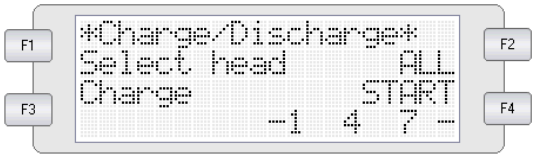
Step 2 : For example a charge of head 1, 4 and 7 will be performed.



Browse to head 1 with [F2] key. Select head 1 by pressing the [F1] key.



Browse to head 4 with [F2] key. Select head 4 by pressing the [F1] key.

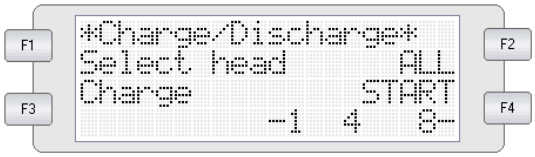


Browse to head 7 with [F2] key. Select head 7 by pressing the [F1] key.

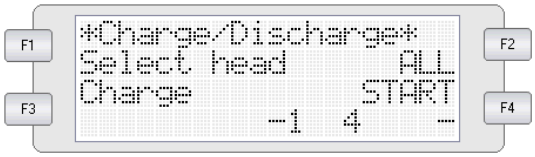
⚠ Notes ⚠

In case you have selected the wrong head, select the head again. The head number will disappear from the list.

Current Selection (Head 1,4 and 8)

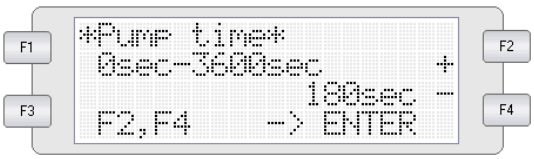


Deselect head 8 by pressing the F1 key again.

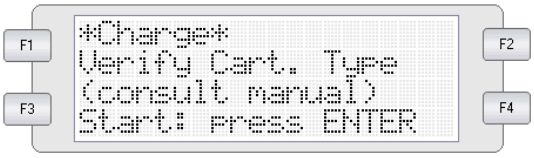


Step 3 : Press the [F3] button until "Charge" is displayed

Step 4 : Press the [F4] key to proceed to the next display. Change the Charge (pump) time with the F2 or F4 key. Confirm with the ENTER key.



Step 5 : Press the ENTER key when following message is displayed.



Step 6 : A timer will start on the display counting down 198 seconds.

In step 2 the pumps will charge for the regulated 180 seconds.

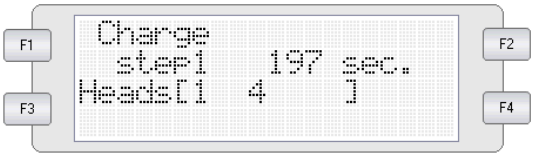
⚠ Notes ⚠

Please be sure to leave the cover closed while charging.

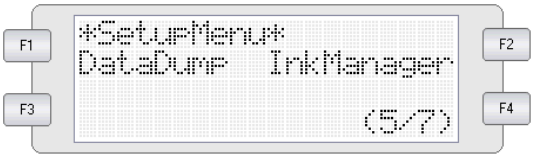
2.2. Manually stop Charging

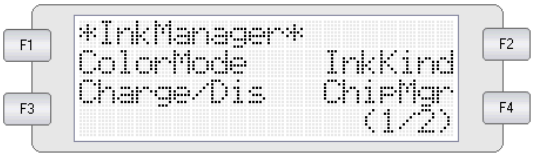
It is also possible to stop the charging manually. This could be useful in case the tubings are completely filled with ink and no charge of ink is needed anymore.

Step 1 : Following screen will be displayed when the pumps are charging ink into the tubings.



Step 2 : By pressing the Menu▲ or Menu▼ key, browse to the Ink Manager Menu > Charge/Discharge > Charge ALL > STOP

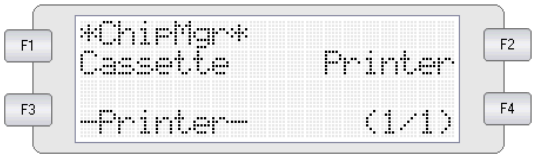




Handle following order
Select ALL with [F2] key
Press F1 to select ALL heads
Select Charge with [F3] key
Press the F4 key to STOP the charge

6.5.5.6 *Chip Manager Menu*

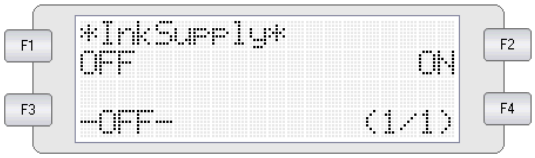
When printing, the ink volume is reduced from the SmartChip on the ink cassette. It is also possible to load the ink volume on the SmartChips on the ink cassette to the SmartChip management system. Please refer to the chapter "Working with Mutoh's SmartChip management system" for further details.



Setup items	Parameters	Description
ChipMgr	Cassette	Use the smart chips on the ink cassettes
	Printer	Use the smart chip manager system on the top (or back) of the machine. Recommended when working with a Spitfire Bulk Ink System.
	-	• [CANCEL] key: shifts to the previous menu.

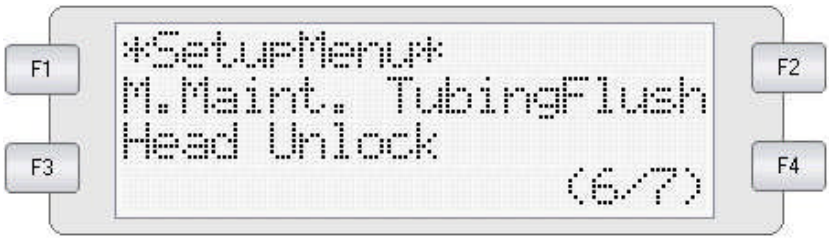
6.5.5.7 *Ink Supply Menu*

Via this setting, you can activate your Mutoh Bulk Ink System or leave the printer in cassette mode.



Setup items	Parameters	Description
Ink Manager (1/1)	ON	Make use of a Mutoh Bulk Ink System (Not possible when using Eco Solvent Ultra ink)
	OFF	Only use cassettes
	-	• [CANCEL] key: shifts to the previous hierarchy menu.

6.5.6 Setup Menu 6/7



6.5.6.1 Manual Maintenance menu

This menu will unlock the head and moves it to the left maintenance station. In this position it is possible to replace the cutting blade or to perform the daily and weekly maintenance.

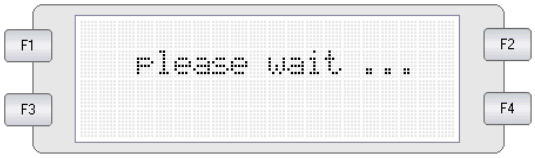
⚠ Notes ⚠

Refer to "Replacing the cutting blade" for details regarding the procedure for manually changing the cutting blade
Refer to "Maintenance" chapter for more details about the daily, weekly and monthly maintenance.

Setup items	Parameters	Description
Cutter change	No	Do not unlock the head and make it move to the left. To shift to the previous hierarchy menu.
	Yes	Unlock the head and make it move to the left.
	-	• [CANCEL] key: shifts to the previous hierarchy menu.

Press the [F2] key to unlock the head. Following message will appear. Strike the ENTER key to bring back the head to its home position.

It is important to wait for the carriage to come back, otherwise errors can occur. Therefore following message is displayed.



6.5.6.2 *Tubing Flush menu*

To remove rest fluids out of the capping station and waste tubes.

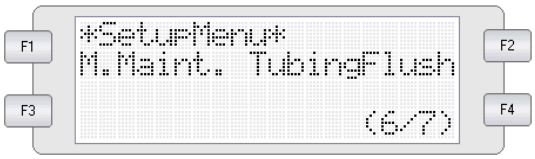
⚠ Important ⚠

The tubing flush sequence will not remove fluids out of the head nor out of the ink supply tubes.
Please refer to the Periodical Services for the daily and weekly maintenance of the Spitfire 100 Extreme.

The tubing flush feature includes following sequence:

1) The head is moved away from the capping position.
2) Pump sequence is started.
3) Pumps are stopped and head is re-capped.

The tubing flush can be started via the "TubingFlush" menu.

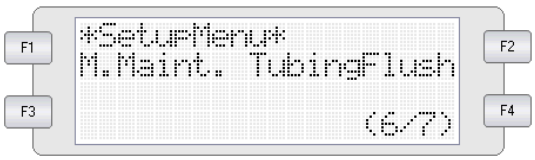


⚠ Notes ⚠

A tubing flush will also be performed before powering OFF the printer.

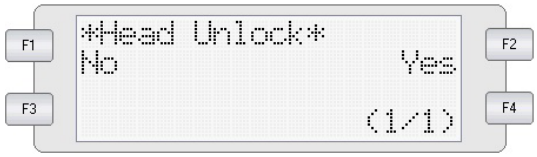
On the display following text appears:

The pumps turn for a certain time. Press ENTER as they stop. To stop the pump motors earlier, press ENTER during the pump cycle. The following display will appear.

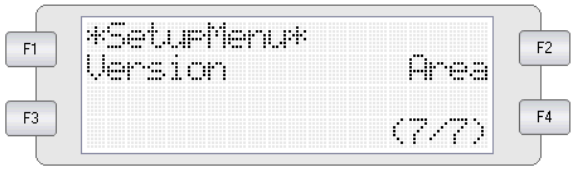


6.5.6.3 *Head Unlock menu*

Select this menu when you want to unlock the head.

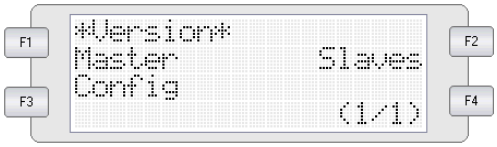


6.5.7 Setup Menu 7/7



6.5.7.1 Version Check menu

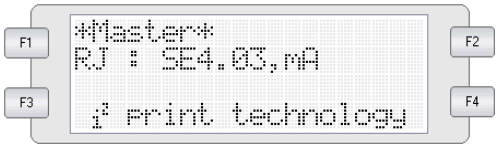
To check the installed firmware version.



Setup items	Parameters	Description
Version	Master	To check the version of the master firmware
	Slaves	To check the version of the slaves firmware
	Config	To check the version of the config firmware
	-	• [CANCEL] key: to shift to the previous hierarchy menu.

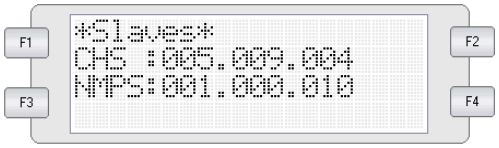
6.5.7.2 Master

To check the version of the master firmware



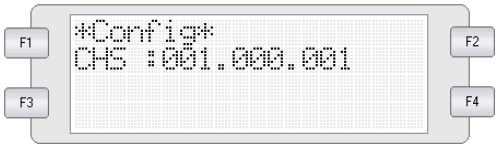
6.5.7.3 Slaves

To check the version of the slaves firmware



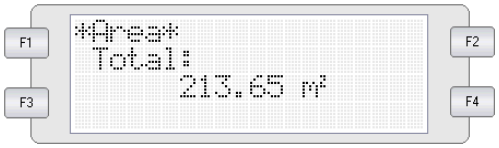
6.5.7.4 Config

To check the version of the config firmware



6.5.7.5 Area

To printer will count the total area printed in its lifetime



7 TROUBLESHOOTING

7.1 Introduction 166
7.2 Failures and malfunctions of the printer 166
7.3 Error messages 171
7.3.1 Status messages 171
7.3.2 Message type error display and solutions 171
7.3.3 Data error display and solutions 173
7.3.4 Command error display and solutions 173
7.3.5 Error requiring a restart 174
7.3.6 External errors 174
7.4 When media jams occur 175
7.4.1 How to remove a piece of media 175
7.5 Emergency capping procedure 176

7.1 INTRODUCTION

This chapter explains troubles that may occur when using the printer and how to solve them.
If you encounter an error not described in this chapter, refer to "Error messages" and contact your local MUTOH dealer.

⚠ Notes ⚠

To receive our customer support service, please present your warranty. If you do not present it, you may be changed for the service even if it is within the term of warranty.
If you have a maintenance service contract, please show the agreement or other documents.

7.2 FAILURES AND MALFUNCTIONS OF THE PRINTER

This section describes the failures and malfunctions of the printer not displayed as errors, causes and solutions.

(1) The printer does not work after the power has been switched on.

N°	Possible cause	Solutions
1	You did not plug the power cable in.	Plug in the power cable.
2	The AC power does not match the specified voltage.	Use the printer at the specified voltage
3	The front cover is open.	Close the front cover.

(2) The printer does not work after media has been loaded.

N°	Possible cause	Solutions
1	The front cover is open.	Close the front cover
2	The pressure rollers have been raised.	Lower the pressure rollers lever.
3	You did not load the media straight into the printer. Error message "Paper Slant"	Load the media straight into the printer.
4	One or more ink cassettes have not been installed.	Install (an) ink cassette(s).
5	You did not use recommended media.	Use recommended media.
6	You used the printer in direct sunlight or other locations not appropriate for the specified environment.	Use the printer in the specified environment.

(3) The printer does not work after data has been sent from a computer.

N°	Possible cause	Solutions
1	You did not connect the interface cable.	Connect the interface cables.
2	One or more ink cassettes have not been installed.	Install (an) ink cassette(s).
3	Ink cassette is empty.	Replace the ink cassette. The "empty" LED on the LED bar above the slot will light up.

(4) The printer does not print and an error is generated after data has been sent from a computer.

N°	Possible cause	Solutions
1	The model setting of the computer is not correct.	Make sure that the model settings on computer and printer are the same.
2	The interface setting or command mode on computer and printer do not match.	

(5) Printouts are partially blurred or there are some missing nozzles.

⚠ Notes ⚠

You may not obtain reasonable quality with media other than recommended media.

N°	Possible cause	Solutions
1	The media is damped.	Replace with new media.
2	You used folded, creased or curled media.	
3	Check the media for curling or lift off.	Use the recommended media. When using media other than recommended media, set the following items in the media setting menu. Media HeadHeight Stiff

(6) Printing position is not correct (some positions are not printed.)

N°	Possible cause	Solutions
1	The loading position of the media is not correct.	Load the media correctly.
2	You used the scale setting.	Turn off the scale setting, or make the setting again.
3	You set the origin or starting position.	Turn off the origin or starting position setting, or make the setting again.

(7) Media jams occur frequently.

⚠ Notes ⚠

We cannot ensure correct media feeding with media other than recommended media.

N°	Possible cause	Solutions
1	You did not use recommended media.	Use recommended media.
2	You used the printer in an environment other than the specified environment.	Use the printer in the specified environment.
3	You used old media.	Replace with new media.
4	You used folded, creased, or curled media.	
5	Check the media for curling or lift off.	Use the recommended media. When using media other than recommended media, set the following items in the media setting menu. • Media • HeadHeight • Stiff

(8) Roll media cannot be cut correctly.

N°	Possible cause	Solutions
1	The edge of the cutting blade is not sharp.	Replace the cutting blade.
2	The roll media has static electricity.	Remove the static electricity on the roll media.
3	Media is too heavy to be cut automatically.	Cut the media manually.

(9) You cannot perform initial ink charging.

N°	Possible cause	Solutions
1	The front cover is open or the hold lever is up.	Close the front cover and lower the hold lever.
2	Some of the 16 ink cassettes have not been loaded properly.	Load all of the 16 cassettes properly.

(10) Ink is not used though you performed initial ink charge.

N°	Possible cause	Solutions
1	The ink cassette is cold or frozen.	Leave the ink cassette in normal temperature for at least three hours, and perform cleaning a few times.
2	You switched off the printer during the initial ink charging.	Switch on the printer to continue the initial ink charging.
3	The printer rarely prints correctly only after initial ink charging.	Perform cleaning a few times and check again.
4	Pumps or tubings are blocked	Replace the tubings.
5	There is a leak, no vacuum, no air suction.	Find the leak and repair it.

(11) The media is off or damaged when loading it.

⚠ Notes ⚠

Remove the jammed or damaged media, referring to "When media jams occur".

N°	Possible cause	Solutions
1	You did not use recommended media.	Use recommended media.
2	The loading position of the media is not correct.	Load the media correctly.
3	Foreign material, such a piece of media, is attached to the pressure rollers.	Clean the pressure rollers.
4	You used the printer in direct sunlight or other locations not appropriate for the specified environment.	Use the printer in the specified environment.
5	You loaded sheet media into the printer.	Set the CutSize setting to Length or Width.
6	You used folded, creased, or curled media.	Replace with new media.
7	Check the media for curling or lift off.	Use the recommended media. When using media other than recommended media, set the following items in the media setting menu. • Media • HeadHeight • Stiff

(12) Media is damaged during media Initial.

⚠ Notes ⚠

Remove the jammed or damaged media.

N°	Possible cause	Solutions
1	You did not use recommended media.	Use recommended media.
2	The loading position of the media is not correct.	Load the media correctly.
3	You did not load the media straight into the printer.	Load the media straight into the printer.
4	Foreign material, such a piece of media, is attached to the pressure rollers.	Clean the pressure rollers.
5	You used the printer in a location with air conditioner or other location not appropriate for the specified environment.	Use the printer in the specified environment.
6	You loaded sheet media into the printer.	Set the CutSize setting to Length or Width.
7	You used media folded, creased, damaged, torn, curled.	Replace the media.

(13) Tracing media or other thin media cannot be detected.

N°	Possible cause	Solutions
1	You did not use recommended media.	Use recommended media.
2	You used the printer in direct sunlight or other locations not appropriate for the specified environment.	Use the printer in the specified environment.

(14) Media size is wrong during media Initial.

N°	Possible cause	Solutions
1	You did not use recommended media.	Use recommended media.
2	You did not load the media straight into the printer.	Load the media straight into the printer.
3	The curled surface of media is up when loading.	Remove the curl in the media, or replace with new media.
4	You used the printer in a location with air conditioner or other location not appropriate for the specified environment	Use the printer in the specified environment.
5	You reused printed media.	Use new, not printed media.

(15) Media is crooked while printing.

N°	Possible cause	Solutions
1	You did not use recommended media.	Use recommended media.
2	The loading position of the media is not correct.	Load the media correctly.

(16) The printer is not connected to a computer using the Centronics interface.

N°	Possible cause	Solutions
1	You did not connect the Centronics interface cable correctly.	Connect the Centronics interface cable correctly.
2	When the printing data is transferred from the computer, the DATA lamp does not lit.	If the DATA lamp does not lit, contact the computer maker.
3	The Centronics setting on the printer does not match the setting on the computer.	Make the Centronics setting on the printer so that it matches the setting on the computer.
4	The type of command that is currently set, does not match the command of a computer or a driver.	Match the command setting of the printer to the environment of a computer or a driver.

(17) The printed lines are blurred.

N°	Possible cause	Solutions
1	Temperature of the fixer is low	Raise the temperature
2	You did not use recommended media.	Use recommended media.
3	You used too thick or too thin media.	Use recommended media
4	You used bond media.	Use recommended media.
5	The printed surface is not the printable side.	Pay attention to the printable side to load media correctly.
6	Did you try head cleaning?	Perform head cleaning. Perform strong cleaning. Clean the surface of the print head. Perform long save cleaning.

(18) White or black lines on printouts.

N°	Possible cause	Solutions
1	You did not use recommended media.	Use recommended media.
2	Media feed is incorrect	Change the distance adjustment

(19) Lines are missing.

N°	Possible cause	Solutions
1	You did not use recommended media.	Use recommended media.
2	Did you try minor adjustments for image quality?	Try minor adjustments for image quality.
3	Some nozzles are missing	Perform a cleaning

(20) "Bubbles" near the Heaters.

N°	Possible cause	Solutions
1	You did not use recommended media.	Use recommended media.
2	You did not set the correct heater, temperature.	Lower the temperature or switch off the Heater

(21) Top Feed problem.

N°	Possible cause	Solutions
1	Media jam occurred due to a need for Top feed.	Insert a minimum Top Feed

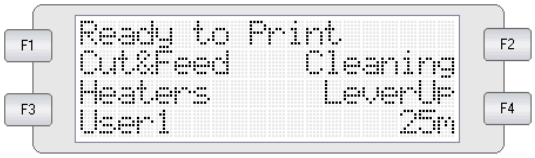
7.3 ERROR MESSAGES

This chapter explains the messages displayed both when the printer works normally and when an error occurs, and possible solutions.

7.3.1 Status messages

(1) Displays the operational status (1)

The following operational status is displayed on the first line of the operation panel.



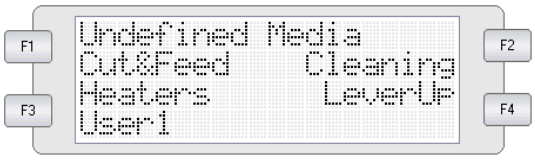
N°	Display	Solutions
1	Ready to print	Waiting for the next operation. (Media has been loaded.)
2	Media End	The printer is waiting for the next operation. (No media has been loaded into the printer.)
3	Receiving	The printer is receiving data.
4	Converting	The printer is converting data.
5	Printing	The printer is printing.
6	Warning Waste Ink Tank	Replace the waste bottle.
7	Warning Ink Tube Life	Contact the dealer where you bought the printer or MUTOH's technical support centre.

7.3.2 Message type error display and solutions

The following are the message type error display and solutions.
The following message type errors are displayed when an error occurs while operating the printer.
When one of the following message type error displays appears, the printer may stop operation.
If the printer stops operation, solve the problem to delete the error message and restart the printer.

(1) Error messages regarding media feeding

The following error message is displayed on the first line of the operation panel.



N°	Display	Descriptions	Solutions
1	Undefined media	The printer failed to detect the media. (The printer stops.)	Reload the media.
2	Paper Slant	The media was fed at an angle into the printer. (The printer stops.)	Reload the media.
3	End Of Roll	Roll media runs out. (The printer stops.)	Load new roll media.
4	Cover Open	The front cover is open. (The printer stops.)	Close the front cover.
5	Please Set Media	The pressure roller has been raised. There is no media.	Set the media and lower the pressure roller.

(2) Error messages regarding warnings of the remaining ink

The following error message is displayed on the forth line on the operation panel.

N°	Display	Descriptions	Solutions
1	Near End [*]	The ink is running short in the ink cassette. (The printer continues to perform.)	Prepare a new ink cassette.

⚠ Notes ⚠

The [*] shows the colour of the ink causing the error according to the following codes:

- 1-16 : ink cassette slot number (Refer to 'Installing ink cassettes')
- All : All ink cassettes

(3) Other error messages

The following error message is displayed on the forth line of the operation panel

N°	Display	Descriptions	Solutions
1	Ink Status Cassette [*]	Ink cassette(s) is (are) empty. (The printer stops.)	Replace the ink cassette(s)
2	Ink Status No Filled [*]	Initial filling has not been performed.	Perform initial filling of the ink.
3	No original ink	You did not load MUTOH's recommended ink cassette. (The printer stops.)	Load MUTOH's recommended ink cassette.
4	4 Memory Status NoMemory DIMM 64 MB	Short of memory while converting or printing data.	Consider increasing the memory capacity.

⚠ Notes ⚠

The [*] shows the colour of the ink causing the error according to the following codes:

- 1-16 : ink cassette slot number (Refer to 'Installing ink cassettes')
- All : All ink cassettes

7.3.3 Data error display and solutions

Following are data errors and possible solutions during printer operations.
Data errors are displayed when a communication error occurs between computer and printer.
If data error occurs, the following error messages are displayed and the printer stops.
Solve the problem to delete the error message and restart the printer.

N°	Message	Descriptions	Solution
1	Online status I** Error [ ]	An error has occurred while receiving data.	Confirm the communication condition between computer and printer.

⚠ Notes ⚠

***** in error messages are code numbers indicating what kind of error occurred.**

7.3.4 Command error display and solutions

Following are command error descriptions and possible solutions during printer operations.
Command errors are displayed when an error has occurred while converting the command data sent from computer to printer.
If a command error occurs, the following error messages are displayed and the printer stops.
Solve the problem to delete the error message and restart the printer.

N°	Message	Descriptions	Solution
1	command status MH** Error [ ]	Invalid command data has been sent from computer.	Make sure that the settings of the computer and the printer match.

⚠ Notes ⚠

***** in error messages are code numbers indicating what kind of error occurred.**
[ ] may indicate the command code of the error.
For the settings on a computer, refer to the computer's operation manual.

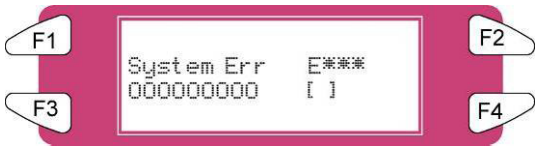
7.3.5 Error requiring a restart

Following are descriptions and solutions requiring a restart.
Errors requiring a restart are displayed when the following fatal error occurred during printer operation.

Foreign material disturbing the printer operation is involved in the printer.
An electrical circuit (such as board, motor, or sensor) failure has occurred.
An error on the control program has occurred.

If error requiring a restart occurred, the printer prints and then stops (see below).
(1) Power relating to the driving system is shut off automatically.
(2) All indicator lights on the operation panel are switched on and beeps sound continuously.
(3) An error message is displayed.
Press any key to stop the beep sounds.

If an error requiring a restart occurred, solve the problems to restart the printer and delete the error.
If the same error message is displayed again, contact your local MUTOH dealer. Be sure to inquire the code numbers of the error messages.



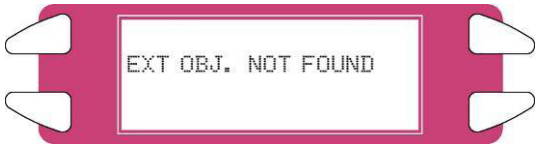
N°	Message	Descriptions	Solutions
1	E System error*** OOOOOOOOOO [ ]	An error which cannot be solved promptly has occurred.	1. If foreign materials such as a piece of media or media dust are involved in the driving system, remove them. 2. Make sure that the replaced parts are correctly installed. 3. Power OFF the printer. After 10 seconds or more, power it back ON.

⚠ Notes ⚠

***** in error messages are code numbers indicating what kind of error occurred.**
[ ] may indicate the command code of the error.
For the settings on a computer, refer to the computer's operation manual.

7.3.6 External errors

Errors caused by external objects or boards.



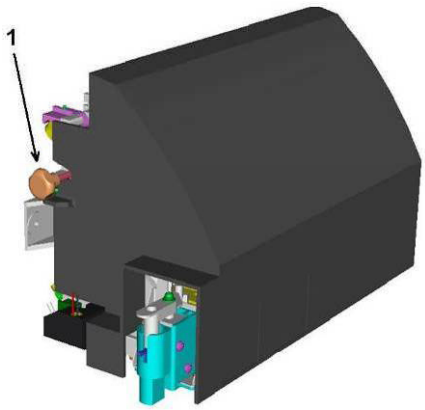
N°	Message	Descriptions	Solutions
1	External object not found	One or more boards are corrupt	Call Authorized Mutoh Technician

7.4 WHEN MEDIA JAMS OCCUR

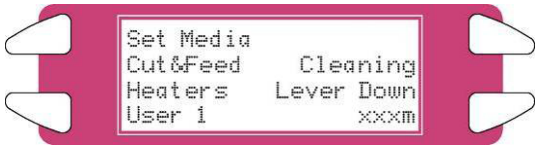
If the loaded media gets jammed in the printer, follow the steps below to remove the media.

7.4.1 How to remove a piece of media

Put the head in the up position with the scroller.



Step 1 : Press [F4] to raise the pressure rollers.
The MEDIA SET lamp will switch on (orange).
The following message is displayed.



⚠ Notes ⚠

For raising or lowering the pressure rollers, you can use the foot switch instead of the operation panel.

Step 2 : If a piece of media or media dust is stocked in the printer, open the front cover carefully with the two grips and remove the piece of media or media dust.

⚠ Caution ⚠

Be sure not to pinch your fingers while opening and closing media cover.
Threat the head with care, very fragile.

Step 3 : If there is an error requiring a restart, power the printer OFF and ON again.

7.5 EMERGENCY CAPPING PROCEDURE

The procedure described below, is strongly recommended for the Mild Solvent series printers, to avoid print heads drying out during a printer failure.

In some cases, it may happen that the printer gets blocked during the printing process because of:

Blocking of machine due to a media crash
Failure of electricity grid
A machine failure

In most cases:

The carriage will still be away from the capping station, above the printing platform
The capping-station will be in the 'down' position.

It is important to immediately take action and reboot the machine. The machine will then automatically re-initialize and put the carriage back on the capping-station to protect the print heads.

In some situations, a support or a technical intervention is required to solve the problem e.g. when it is not possible to boot the machine anymore. In these cases it's very important to protect the heads during the down-time of the machine!

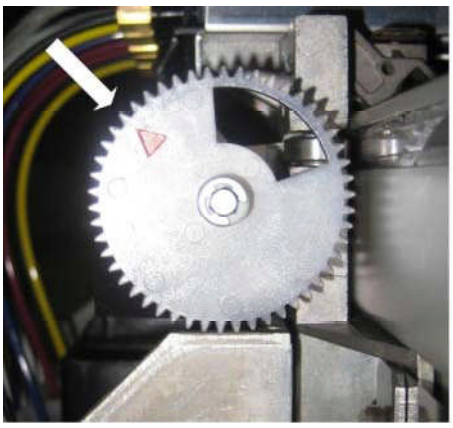
If this is not done, the print-heads might completely dry-out and will result in broken heads which will then also need to be replaced.

To avoid that kind of situation, there is a simple procedure.

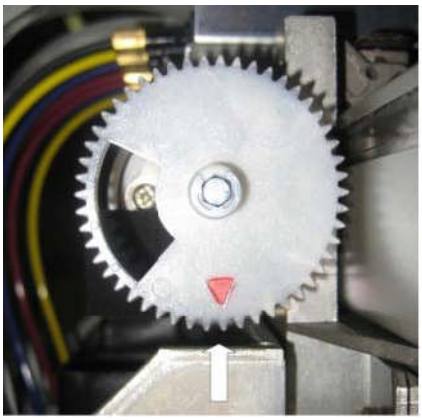
Step 1 : Never leave the printer in this situation during a down-time for a longer period (= a few hours up to a few days). Print heads might completely dry out and can be damaged!

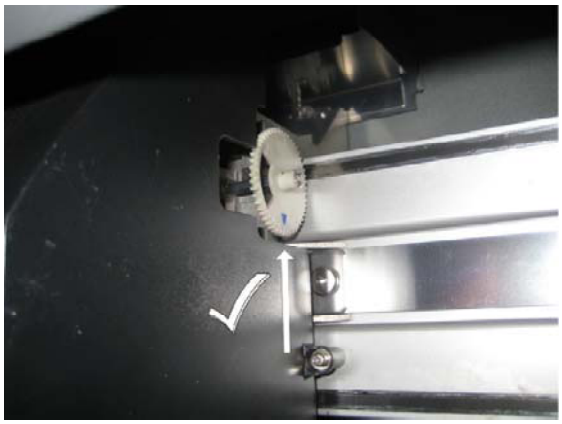
Step 2 : Remove the complete wiper plate assy with the 4 thumb-screws.

Step 3 : Move the carriage close to the capping station. Warning: if you feel obstruction, turn-up the head-height slide-gear up. The carriage is probably obstructed by the pressure rollers.



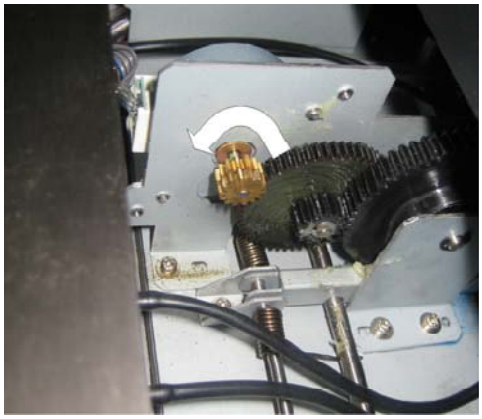
Step 4 : When the carriage is above the capping-station, turn back the head-height slide-gear. Make sure the arrow is in the DOWN-position





Step 5 : Move the carriage to the utter most right position. Make sure the slide gear is not blocking.

Step 6 : To protect the print heads, turn the small brass gear counter clockwise. The capping station will suddenly move upwards. Just continue to turn until you cannot go further.



Step 7 : Verify if the carriage is properly capped. Try to move the carriage. If it is properly capped, it should not be possible. Now your machine is temporarily protected until the technical issue is resolved.